

## **TABLES 2–36**

**Table 2.** Lithologic sieve log for multiple-well monitoring site CARSON-1 (4S/13W-9H9–12), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	20	Slightly sandy silty clay (sM); clay with silt and minor very fine to fine sand; moderately sorted; sub-rounded; very dark grayish brown (2.5Y 3/2)
20	40	Slightly sandy gravelly clayey silt (sgM); silt with minor very fine to fine sand, clays and gravels; moderately sorted; subangular; very dark grayish brown (2.5Y 3/2)
40	60	Slightly sandy silty clay (sM); clay with some minor silt and very fine sand; moderately sorted; subangular; dark grayish brown (2.5Y 4/2)
60	80	Silty clay (M); clay with minor silt; well sorted; dark olive gray (5Y 3/2); anhydrite fragments
80	100	Silty clay (M); clay with minor silt; well sorted; black (5Y 2.5/2)
100	120	Slightly sandy clayey silt (sM); silt with some clays and minor very fine sands; moderately sorted; subangular; dark olive gray (5Y 3/2)
120	140	Silty clay (M); clay with some silt and minor very fine sand; well sorted; very dark gray (5Y 3/1); shell fragments, possible class Bivalvia
140	160	Slightly sandy clayey silt (sM); silt with some clay and minor very fine sand; well sorted; subangular; dark greenish gray (5GY 4/1 to 10GY 3/1)
160	180	Slightly silty sand (zS); very fine to fine sand with minor silt; well sorted; subangular; dark grayish brown (2.5Y 4/2) to olive brown (2.5Y 4/4)
180	200	Clayey silty sand (mS); very fine to fine sand with minor clay and silt; well sorted; subangular to subrounded; olive gray (5Y 4/2)
200	220	Clayey silty sand (mS); very fine to fine sand with minor clays and silt; well sorted; subangular to subrounded; black (5Y 2.5/2); shell fragments, possible class Bivalvia
220	240	Silty sand (zS); very fine to fine sand with some minor silt; well sorted; subangular to subrounded; dark olive gray (5Y 3/2) to olive brown (2.5Y 4/4); shell fragments
240	260	Clayey silty sand (mS); very fine to fine sand with minor clay and silt; well sorted; subangular to subrounded; dark greenish gray (10Y 3/1) to dark greenish gray (10GY 3/1)
260	280	Silty sand (zS); very fine to fine sand with minor silt; well sorted; rounded to angular; dark greenish gray (5GY 3/1)
280	300	Silty sand (zS); very fine to fine sand with minor silt; well sorted; subangular to subrounded; dark greenish gray (10Y 3/1 to 4/1)
300	320	Clayey silty sand (mS); very fine to fine sand with some minor clays and silt; well sorted; subangular to subrounded; dark greenish gray (10Y 3/1)
320	340	Silty sand (zS); very fine to fine sand with some silt and occasional clay; moderately well sorted; subangular to rounded; dark greenish gray (10Y 3/1)
340	360	Silty sand (zS); very fine to medium sand with some minor silt and occasional clay; moderately sorted; subangular to rounded; dark greenish gray (10Y 3/1); fossil shell fragments, possible class Bivalvia
360	380	Silty sand (zS); very fine to medium sand with some minor silt; moderately well sorted; subangular to rounded; greenish black (10Y 2.5/1); soil fragments
380	400	Silty clayey sand (mS); very fine to medium sand with some minor silt and clay; moderately sorted; subangular to subrounded; dark greenish gray (10Y 3/1); shell fragments, possible class Bivalvia
400	420	Clayey silty sand (mS); very fine to medium sand and silt with some clay; moderately sorted; subangular to subrounded; dark greenish gray (10Y 3/1 to 5GY 3/1); shell fragments of the class Gastropoda and class Bivalvia
420	440	Clayey silty sand (mS); very fine to fine sand with some clays and silt; minor medium to coarse sand; moderately sorted; subangular to subrounded; dark greenish gray (10Y 3/1); shell fragments
440	460	Silty sand (zS); very fine to medium sand with some silt and minor coarse sand to small pebble-sized gravel; moderately sorted; subangular to subrounded; dark greenish gray (10Y 3/1 to 5GY 3/1); shell fragments
460	480	Clayey sand (cS); medium to coarse sand with some clays; moderately sorted; subangular to subrounded; dark greenish gray (10Y 3/1 to 5GY 4/1); pieces of wood
480	500	Slightly clayey sand (cS); very fine to very coarse sand with minor clay and granule- to small pebble-sized gravel; poorly sorted; subangular to subrounded; dark greenish gray (10Y 3/1); shell fragments
500	520	Silty sand (zS); very fine to fine sand with some silt; well sorted; subangular to subrounded; dark greenish gray (10Y 3/1 to 10Y 4/1)

**Table 2.** Lithologic sieve log for multiple-well monitoring site CARSON-1 (4S/13W-9H9–12), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
520	540	Silty sand (zS); very fine to fine sand with minor silt; well sorted; subangular to subrounded; dark greenish gray (10Y 3/1 to 10Y 4/1)
540	560	Sandy silt (sZ); silt with some very fine to fine sand; well sorted; subrounded to rounded; dark greenish gray (10Y 3/1 to 10Y 4/1)
560	580	Sandy silt (sZ); silt with some very fine to fine sand; well sorted; subrounded to rounded; dark greenish gray (10Y 3/1)
580	600	Sandy silt (sZ); silt with very fine sand; well sorted; subrounded to rounded; dark greenish gray (10Y 3/1) to greenish black (5GY 2.5/1); wood
600	620	Silty sand (zS); very fine to fine sand with some silt; well sorted; subangular to rounded; dark greenish gray (5GY 3/1)
620	640	Silty sand (zS); very fine to fine sand with some silt; well sorted; subangular to rounded; dark greenish gray (10Y 3/1); gypsum crystals
640	660	Silty sand (zS); very fine to fine sand with some silt; well sorted; subrounded to rounded; dark greenish gray (10Y 3/1 to 10Y 4/1)
660	680	Silty sand (zS); very fine to fine sand with some silt; well sorted; subangular to rounded; dark greenish gray (10Y 3/1 to 10Y 4/1)
680	700	Silty sand (zS); very fine to fine sand with some silt, occasional coarse sand; well sorted; subangular to rounded; dark greenish gray (10Y 4/1 to 10Y 3/1)
700	720	Silty sand (zS); very fine to fine sand with some silt; well sorted; subangular to rounded; dark greenish gray (10Y 4/1)
720	740	Silty sand (zS); very fine to fine sand with some silt and minor medium to very coarse sand; poorly sorted; subangular to rounded; dark greenish gray (10Y 4/1)
740	760	Silty sand (zS); very fine to very coarse sand with some silt, minor granule- to small pebble-sized gravel; poorly sorted; subrounded to rounded; dark greenish gray (10Y 4/1)
760	780	Slightly silty sand (zS); very fine to very coarse sand with some minor silt and granule-sized gravel; poorly sorted; angular to rounded; dark greenish gray (10Y 4/1)
780	800	Slightly clayey silty sand (mS); very fine to medium sand with some minor clays and silt; poorly sorted; subangular to rounded; dark greenish gray (10Y 4/1)
800	820	Sand (S); very fine to medium sand; moderately sorted; subangular to subrounded; dark greenish gray (10Y 3/1 to 10Y 4/1)
820	840	Sand (S); fine to medium sand with minor very fine to very coarse sand; moderately sorted; subangular to rounded; dark greenish gray (10Y 4/1)
840	860	Sand (S); fine to medium sand with minor very fine to very coarse sand; moderately sorted; subangular to subrounded; dark greenish gray (10Y 4/1)
860	880	Silty clayey sand (mS); very fine to fine sand with minor silt, clay and medium to very coarse sand; poorly sorted; subangular to rounded; black (5Y 2.5/1) to dark greenish gray (10Y 3/1); micaceous
880	900	Silty sand (zS); very fine to fine sand with minor silt, clays and medium sand; moderately sorted; subangular to rounded; greenish black (10Y 2.5/1) to greenish black (10Y 3/1); micaceous
900	920	Silty sand (zS); very fine to fine sand with some silt; well sorted; subangular to subrounded; greenish black (10Y 2.5/1) to dark greenish black (10Y 2.5/1) to dark greenish gray (10Y 3/1); micaceous
920	960	Silty sand (zS); very fine to fine sand with some silt; well sorted; subangular to rounded; greenish black (10Y 2.5/1); micaceous
960	1,040	Sand (S); very fine to fine sand; well sorted; subangular to rounded; dark greenish gray (10Y 4/1)
1,040	1,060	Sand (S); very fine to fine sand; well sorted; subangular to rounded; dark greenish gray (10Y 3/1)
1,060	1,120	Silty sand (zS); very fine to fine sand with some silt; well sorted; subangular to rounded; dark greenish gray (10Y 3/1)
1,120	1,160	Silty sand (zS); very fine to fine sand with some silt; well sorted; subangular to rounded; dark greenish gray (10Y 3/1)
1,160	1,200	Silty sand (zS); very fine sand and silt; well sorted; subangular to rounded; dark greenish gray (10Y 3/1); micaceous

**Table 3.** Lithologic sieve log for multiple-well monitoring site CERRITOS-1 (4S/11W-5P9-14), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	20	Silty sand (zS); medium to very fine sand with silt; moderately sorted; subrounded; olive brown (2.5Y 4/3)
20	40	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark grayish brown (2.5Y 4/2)
40	60	Sand (S); fine to medium sand; well sorted; subrounded; olive gray (5Y 4/2)
60	80	Clayey silty sand (mS); fine to very fine sand with silt and clay; moderately sorted; subrounded; olive gray (5Y 4/2)
80	100	Sandy silt (sZ); silt with very fine to fine sand; well sorted; subrounded; olive gray (5Y 5/2)
100	120	Silty sand (zS); very fine to fine sand with silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
120	140	Gravelly sand (gS); fine to coarse sand with some very coarse sand and granules and occasional pebbles less than 12 millimeter diameter; very poorly sorted; subrounded; dark greenish gray (10Y 4/1)
140	160	Silty sand (zS); fine to coarse sand with very fine sand and silt; moderately sorted; subrounded; olive gray (5Y 4/2)
160	180	Silty sand (zS); very fine to fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
180	220	Silty sand (zS); very fine to fine sand and silt with some coarse sand; moderately sorted; subrounded; greenish gray (10Y 5/1)
220	240	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
240	260	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; greenish gray (10Y 5/1)
260	280	Sandy silt (sZ); silt with some medium to coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
280	320	Gravelly silty sand (gmS); fine to very coarse sand with silt and granules; very poorly sorted; subrounded; dark greenish gray (10Y 4/1)
320	340	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
340	380	Silty sand (zS); medium to very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
380	420	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
420	440	Silty sand (zS); fine to very fine sand and silt with some coarse to very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
440	460	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
460	480	Silty sand (zS); fine to very fine sand and silt and occasional medium to coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
480	500	Slightly clayey silty sand (mS); fine to very fine sand with silt and occasional clay; well sorted; subrounded; dark greenish gray (10Y 4/1)
500	520	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
520	540	Silty sand (zS); fine to very fine sand and silt with occasional coarse to very coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
540	560	Slightly clayey silty sand (mS); fine to very fine sand with some silt and occasional clay; well sorted; subrounded; dark greenish gray (10Y 4/1)
560	580	Slightly clayey silty sand (mS); fine to very fine sand and silt with occasional clay and coarse to very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
580	600	Silty sand (zS); medium to very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
600	640	Silty sand (zS); fine to very fine sand with silt and occasional coarse to very coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
640	660	Silty sand (zS); fine to very fine sand with silt and some coarse to very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)

**Table 3.** Lithologic sieve log for multiple-well monitoring site CERRITOS-1 (4S/11W-5P9-14), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
660	680	Clayey silty sand (mS); very fine sand and silt with some clay; well sorted; subrounded; dark greenish gray (10Y 4/1)
680	700	Slightly clayey silty sand (mS); fine to very fine sand and silt with occasional clay and coarse to very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
700	720	Silty sand (zS); fine to very fine sand with some silt and occasional coarse to very coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
720	740	Silty sand (zS); fine to very fine sand with some silt and medium to coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
740	760	Silty sand (zS); fine to very fine sand with some silt and occasional coarse to very coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
760	800	Silty sand (zS); fine to very fine sand with silt and occasional coarse to very coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
800	820	Slightly clayey silty sand (mS); fine to very fine sand with silt and occasional clay; well sorted; subrounded; dark greenish gray (10Y 4/1)
820	860	Slightly clayey silty sand (mS); fine to very fine sand with some silt and occasional clay; well sorted; subrounded; dark greenish gray (10Y 4/1)
860	880	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
880	900	Silty clayey sand (mS); fine to very fine sand with some clay and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
900	1,000	Clayey silty sand (mS); fine to very fine sand with some silt and clay; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,000	1,020	Slightly clayey silty sand (mS); fine to very fine sand with silt and occasional clay and coarse to very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,020	1,080	Slightly clayey silty sand (mS); fine to very fine sand with silt and occasional clay; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,080	1,100	Silty sand (zS); very fine to fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,100	1,120	Clayey silty sand (mS); very fine to coarse sand with silt and clay; poorly sorted; subrounded; dark greenish gray (10Y 4/1)
1,120	1,160	Clayey silty sand (mS); very fine to medium sand with silt and some clay; poorly sorted; subrounded; dark greenish gray (10Y 4/1)
1,160	1,180	Slightly clayey, silty sand (mS); very fine to medium sand with silt and occasional clay; poorly sorted; subrounded; dark greenish gray (10Y 4/1)
1,180	1,220	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)

**Table 4.** Lithologic sieve log for multiple-well monitoring site COMMERCE-1 (2S/12W-7J1–6), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	20	Silty sand (zS); very fine sand and silt with some fine to medium sand; moderately sorted; subrounded; brown (10YR 4/3)
20	40	Silty sand (zS); very fine sand and silt; well sorted; subrounded; light olive brown (2.5Y 5/4)
40	60	Silty sand (S); very fine to medium sand with silt; moderately sorted; subrounded; light olive brown (2.5Y 5/4)
60	80	Slightly clayey silty sand (zS); fine to very fine sand with silt and some medium to coarse sand and occasional clay; moderately sorted; subrounded; light olive brown (2.5Y 5/4)
80	120	Sand (S); very fine to medium sand and some coarse to very coarse sand; well sorted; subrounded; dark yellowish brown (10YR 4/6)
120	140	Silty sand (zS); very fine to fine sand with some medium to very coarse sand and silt; moderately sorted; subrounded; olive brown (2.5Y 4/4)
140	160	Gravelly silty sand (gmS); very fine to medium sand with some silt and very coarse sand and granules; poorly sorted; subrounded; dark yellowish brown (10YR 3/4)
160	180	Gravelly silty sand (gmS); very fine to medium sand with some silt and very coarse sand and granules; poorly sorted; subrounded; yellowish brown (10YR 5/4)
180	220	Silty sand (zS); fine to very fine sand with some silt and medium to very coarse sand; moderately sorted; subrounded; olive brown (2.5Y 4/4)
220	240	Silty sand (zS); fine to medium sand with some very fine sand to silt and coarse to very coarse sand; moderately sorted; subrounded; olive brown (2.5Y 4/4)
240	260	Sandy silt (sZ); silt and very fine sand with occasional coarse to very coarse sand; well sorted; subrounded; olive brown (2.5Y 4/4)
260	280	Silty sand (zS); very fine to fine sand and silt; well sorted; subrounded; olive brown (2.5Y 4/4)
280	320	Clayey silty sand (mS); very fine to medium sand with silt and some clay; moderately sorted; subrounded; dark grayish brown (10YR 4/2)
320	340	Gravelly silty sand (gmS); fine to coarse sand with some very fine sand to silt and very coarse sand and granules; poorly sorted; subrounded; light olive brown (2.5Y 5/6)
340	360	Gravelly silty sand (gmS); fine to coarse sand with very fine sand and silt and some very coarse sand and granules; poorly sorted; subrounded; light olive brown (2.5Y 5/6)
360	380	Silty sand (zS); very fine sand and silt with fine to coarse sand; moderately sorted; subrounded; light olive brown (2.5Y 5/4)
380	400	Silty sand (zS); very fine to coarse sand and silt; moderately sorted; subrounded; light olive brown (2.5Y 5/4)
400	420	Silty sand (zS); very fine to very coarse sand and silt; moderately sorted; subrounded; light olive brown (2.5Y 5/4)
420	440	Clayey silty sand (mS); very fine to coarse sand with silt and clay; poorly sorted; subrounded; light olive brown (2.5Y 5/4)
440	460	Clayey silty sand (mS); very fine to medium sand with silt and clay; moderately sorted; subrounded; light olive brown (2.5Y 5/4)
460	480	Silty sand (zS); medium to fine sand with very fine sand and silt; moderately sorted; subrounded; light olive brown (2.5Y 5/4)
480	500	Silty sand (zS); medium to fine sand with very fine sand and silt and coarse to very coarse sand; poorly sorted; subrounded; light olive brown (2.5Y 5/4)
500	520	Silty sand (zS); very fine to very coarse sand and silt; poorly sorted; subrounded; olive (5Y 4/4)
520	540	Silty sand (zS); medium to coarse sand with fine sand to silt and very coarse sand; poorly sorted; subrounded; olive (5Y 4/4)
540	560	Silty sand (zS); fine to medium sand with very fine sand to silt and coarse to very coarse sand; poorly sorted; subrounded; olive (5Y 4/4)
560	580	Slightly silty sand (S); medium to coarse sand with fine to very fine sand, very coarse sand and occasional silt; poorly sorted; subrounded; olive (5Y 4/3)

**Table 4.** Lithologic sieve log for multiple-well monitoring site COMMERCE-1 (2S/12W-7J1–6), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
580	600	Slightly silty gravelly sand (gS); fine to coarse and with very coarse sand and granules and some very fine sand and silt; poorly sorted; subrounded; olive (5Y 4/3)
600	620	Silty clayey sand (mS); fine to very fine sand with clay and silt; moderately sorted; subrounded; dark greenish gray (5BG 4/1)
620	640	Gravelly sand (gS); fine to coarse sand with very coarse sand and granules; poorly sorted; subrounded; olive (5Y 4/3)
640	660	Clayey silty sand (mS); medium to fine sand with very fine sand, silt and clay; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
660	680	Sandy clayey silt (sM); silt and clay with some very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
680	700	Clayey silty sand (mS); fine to very fine sand with silt and clay; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
700	720	Sandy silty clay (sM); clay and silt with very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
720	740	Sand (S); fine to coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
740	760	Sand (S); very fine to fine sand with some medium to very coarse sand; moderately sorted; subrounded; dark greenish gray (5GY 4/1)
760	780	Silty sand (zS); fine to medium sand with some very fine sand to silt and coarse to very coarse sand; poorly sorted; subrounded; dark greenish gray (10Y 4/1)
780	800	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
800	820	Sand (S); very fine to very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
820	840	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
840	860	Sandy silt (sZ); silt and very fine sand with shell fragments; well sorted; subrounded; dark greenish gray (5GY 4/1)
860	880	Silty sand (zS); very fine sand and silt with shell fragments; well sorted; subrounded; dark greenish gray (5GY 4/1)
880	900	Sandy silt (sZ); silt and very fine sand with shell fragments; well sorted; subrounded; dark greenish gray (10Y 4/1)
900	920	Silty sand (zS); fine to coarse sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
920	940	Sand (S); fine to very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
940	960	Slightly clayey silty sand (zS); very fine sand and silt with occasional clay; well sorted; subrounded; dark greenish gray (10Y 4/1)
960	980	Sand (S); fine to coarse sand; well sorted; subrounded; dark greenish gray (10Y 3/1)
980	1,000	Sandy silt (sZ); silt with very fine to medium sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,000	1,020	Sandy clayey silt (sM); silt and clay with some very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,020	1,040	Sandy clayey silt (sM); silt and clay with some very fine sand and shell fragments; well sorted; subrounded; dark greenish gray (5GY 4/1)
1,040	1,080	Sandy silt (sZ); silt and very fine sand with shell fragments; well sorted; subrounded; dark greenish gray (5GY 4/1)
1,080	1,100	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark greenish gray (5GY 4/1)
1,100	1,120	Sandy silt (sZ); silt and very fine sand with some shell fragments; well sorted; subrounded; dark greenish gray (5GY 4/1)
1,120	1,140	Sandy silt (sZ); silt and very fine sand with shell fragments; well sorted; subrounded; dark greenish gray (5GY 4/1)
1,140	1,160	Sandy silt (sZ); silt and very fine sand with shell and wood fragments; well sorted; subrounded; dark greenish gray (5GY 4/1)
1,160	1,400	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)

**Table 5.** Lithologic sieve log for multiple-well monitoring site DOWNEY-1 (3S/12W-9J1–6), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	20	Silty sand (zS); very fine to coarse sand with silt; moderately sorted; subrounded; olive gray (5Y 4/2)
20	40	Clayey, silty sand (mS); very fine to coarse sand with silt and clay; poorly sorted; subrounded; olive gray (5Y 5/2)
40	60	Silty sand (zS); very fine to coarse sand with silt; moderately sorted; subrounded; greenish gray (10GY 6/1)
60	80	Silty, gravelly sand (gmS); very fine to very coarse sand with granules and small pebbles and silt; very poorly sorted; subrounded; dark gray (5Y 4/1)
80	100	Silty, gravelly sand (gmS); very fine to very coarse sand with granules and small pebbles and silt; very poorly sorted; subrounded; pale olive (5Y 6/3)
100	120	Silty gravelly sand (gmS); very fine to very coarse sand with granules and small pebbles and silt; very poorly sorted; subrounded to rounded; gray (5Y 6/1)
120	140	Gravelly sand (gS); fine to very coarse sand with granules and medium pebbles; very poorly sorted; subrounded to rounded; olive (5Y 5/3)
140	160	Gravelly sand (gS); fine to very coarse sand with granules and small and medium pebbles; very poorly sorted; olive (5Y 5/3)
160	180	Sand (S); fine to coarse sand; well sorted; subrounded to rounded; olive gray (5Y 4/2)
180	200	Clayey, silty sand (mS); very fine to medium sand with some silt and clay; well sorted; olive gray (5Y 4/2)
200	220	Clayey, silty sand (mS); very fine to fine sand with silt and clay; well sorted; subrounded to rounded; dark olive gray (5Y 3/2)
220	240	Silty sand (zS); very fine to medium sand with some silt; well sorted; subrounded; dark olive gray (5Y 3/2)
240	260	Slightly sandy, silty clay (sM); clay with silt and occasional very fine to fine sand; well sorted; dark greenish gray (10Y 4/1)
260	280	Clayey sand (cS); very fine to fine sand with clay; well sorted; subrounded to rounded; dark greenish gray (5GY 4/1)
280	300	Clayey sand (cS); very fine to medium sand with clay; well sorted; subrounded to rounded; greenish gray (10Y 5/1)
300	320	No sample—Geologist Log—silty clay with some fine sand; well sorted; subrounded; greenish black (10BG 2.5/1) and olive gray (5Y 4/2)
320	340	Sand (S); very fine to coarse sand; well sorted; subrounded to rounded; dark greenish gray (5GY 4/1)
340	360	Slightly gravelly sand ((g)S); fine to very coarse sand with occasional granules and small pebbles; poorly sorted; subrounded to rounded; olive (5Y 4/3)
360	380	Sand (S); fine to coarse sand; well sorted; subrounded to rounded; dark greenish gray (10Y 3/1)
380	420	Gravelly sand (gS); medium to coarse sand with granules and occasional small pebbles; poorly sorted; subrounded to rounded; light brownish gray (2.5Y 6/2)
420	440	Sandy, clayey, gravelly silt (gM); silt with small pebbles and granules and some clay and fine to coarse sand; very poorly sorted; subangular to subrounded; greenish gray (10Y 5/1)
440	480	Sand (S); fine to coarse sand; well sorted; subrounded to rounded; olive (5Y 4/3)
480	500	Sandy clay (sC); clay with fine to coarse sand; poorly sorted; subrounded to rounded; dark greenish gray (10Y 4/1)
500	540	Slightly clayey sand (cS); fine to coarse sand with some clay; well sorted; subrounded to rounded; dark grayish brown (2.5Y 4/2)
540	560	Sand (S); fine to very coarse sand; well sorted; subrounded to rounded; light olive brown (2.5Y 5/3)
560	580	Slightly clayey, silty sand (zS); very fine to fine sand with silt and some clay; well sorted; subrounded to rounded; light yellowish brown (2.5Y 6/3)
580	600	Sand (S); very fine to coarse sand; well sorted; subrounded to rounded; olive gray (5Y 5/2)



**Table 5.** Lithologic sieve log for multiple-well monitoring site DOWNEY-1 (3S/12W-9J1–6), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
600	620	Slightly clayey, silty sand (zS); very fine to very coarse sand with silt and some clay; poorly sorted; subrounded to rounded; olive (5Y 4/3)
620	640	Sand (S); very fine to very coarse sand; moderately sorted; subrounded to rounded; dark olive gray (5Y 3/2)
640	660	Sand (S); very fine to very coarse sand; moderately sorted; subrounded to rounded; olive gray (5Y 4/2)
660	680	Sand (S); very fine to very coarse sand; moderately sorted; subrounded to rounded; olive gray (5Y 4/2)
680	700	Silty sand (zS); very fine to fine sand with silt; well sorted; subrounded to rounded; olive gray (5Y 4/2)
700	720	Silty sand (zS); very fine to fine sand with silt; well sorted; subrounded to rounded; olive gray (5Y 5/2)
720	740	Silty sand (zS); very fine to coarse sand with silt; moderately sorted; subrounded to rounded; pale olive (5Y 6/4)
740	760	Sand (S); very fine to very coarse sand; moderately sorted; subrounded to rounded; pale olive (5Y 6/3)
760	780	Silty sand (zS); very fine to fine sand with silt; well sorted; subrounded to rounded; olive gray (5Y 5/2)
780	800	Sand (S); very fine to medium sand; well sorted; subrounded to rounded; olive gray (5Y 4/2)
800	820	Sand (S); very fine to fine sand; very well sorted; subrounded to rounded; olive gray (5Y 4/2)
820	840	Sandy silty clay (sM); clay with silt and very fine to coarse sand; poorly sorted; subrounded; dark greenish gray (10Y 4/1)
840	860	Sand (S); fine to medium sand; very well sorted; subrounded to rounded; olive gray (5Y 4/2)
860	880	Sand (S); fine to medium sand; very well sorted; subrounded to rounded; dark olive gray (5Y 3/2)
880	900	Sand (S); fine to coarse sand; well sorted; subrounded to rounded; grayish brown (2.5Y 5/2)
900	920	Sand (S); fine to coarse sand; well sorted; subrounded to rounded; olive gray (5Y 5/2)
920	940	Sand (S); fine to medium sand; very well sorted; subrounded to rounded; olive gray (5Y 4/2)
940	960	Sand (S); fine to medium sand; very well sorted; subrounded to rounded; olive (5Y 5/3)
960	980	Sand (S); fine to coarse sand; well sorted; subrounded to rounded; olive gray (5Y 4/2)
980	1,000	Sand (S); fine to coarse sand; well sorted; subrounded to rounded; olive gray (5Y 5/2)
1,000	1,020	Sand (S); fine to medium sand; very well sorted; subrounded to rounded; olive gray (5Y 4/2)
1,020	1,040	Clayey silty sand (mS); very fine to fine sand with silt and clay; well sorted; subrounded; olive (5Y 4/3)
1,040	1,060	Silty sand (zS); very fine to medium sand with silt; well sorted; subrounded to rounded; dark olive gray (5Y 3/2)
1,060	1,080	Slightly silty sand (zS); very fine to medium sand with some silt; well sorted; subrounded to rounded; olive gray (5Y 4/2)
1,080	1,100	Slightly silty sand (zS); very fine to fine sand with some silt; well sorted; subrounded to rounded; olive (5Y 5/3)
1,100	1,120	Silty sand (zS); very fine sand with silt and some fine sand; well sorted; subrounded to rounded; olive gray (5Y 4/2)
1,120	1,140	Silty sand (zS); very fine to fine sand with silt; well sorted; subrounded to rounded; olive (5Y 4/3)
1,140	1,160	Slightly clayey, silty sand (zS); very fine to fine sand with silt and some clay; well sorted; subrounded to rounded; olive gray (5Y 4/2)
1,160	1,180	Slightly clayey, silty sand (zS); very fine to fine sand with silt and some clay; well sorted; subrounded to rounded; olive gray (5Y 4/2)
1,180	1,200	Silty sand (zS); very fine to coarse sand with silt; moderately sorted; subrounded to rounded; olive gray (5Y 4/2)

**Table 6.** Lithologic sieve log for multiple-well monitoring site GARDENA-1 (3S/14W-13J5-8), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	20	Sandy clay (sC); clay with fine to medium sand; moderately sorted; subangular to angular; dark greenish brown (10YR 4/2); quartz
20	40	Clay (C); clay with occasional silt to very fine sand; well sorted; olive brown (2.5Y 4/4)
40	60	Sandy clay (sC); clay with fine to medium sand; moderately sorted; olive brown (2.5Y 4/4)
60	80	Slightly silty sand (zS); fine to very fine sand with some silt; moderately sorted; subrounded to angular; olive (5Y 4/4)
80	100	Sand (S); fine to medium sand; well sorted; subangular to subrounded; yellowish brown (10YR 5/4); quartz
100	120	Clayey silty sand (mS); fine to medium sand with some clay, silt and very fine sand; moderately sorted; subangular to subrounded; yellowish brown (10YR 5/4); quartz
120	140	Sand (S); fine to medium sand; well sorted; subrounded to angular; yellowish brown (10YR 5/4); quartz, biotite
140	160	Silty sand (zS); fine to medium sand with some silt; well sorted; subangular to subrounded; yellowish brown (10YR 5/4)
160	180	Sand (S); fine to medium sand; well sorted; subangular to subrounded; yellowish brown (10YR 5/4); quartz; mica
180	200	Sand (S); fine sand with occasional very fine to medium sand; well sorted; subangular to subrounded; dark olive gray (5Y 3/2); quartz, mica
200	220	Silty sand (zS); fine to medium sand with silt; moderately sorted; subrounded; dark olive gray (5Y 3/2); quartz, mica, fossil shell fragments
220	240	Sand (S); fine to medium sand with occasional very fine to coarse sand; moderately sorted; subangular to subrounded; olive gray (5Y 5/2); quartz, mica, mafic minerals
240	260	Silty sand (zS); fine to medium sand with silt to very coarse sand; poorly sorted; subangular to rounded; olive gray (5Y 5/2); quartz, mica
260	280	Silty sand (zS); fine sand with some silt and very fine sand; well sorted; subangular to subrounded; olive gray (5Y 5/2); quartz, mica
280	300	Sandy silt (sZ); silt with very fine to fine sand; well sorted; subangular; olive gray (5Y 5/2); quartz, mica, fossil shell fragments
300	320	Silty sand (zS); very fine to fine sand and silt; well sorted; subangular to subrounded; dark olive gray (5Y 3/2); quartz, mica, fossil shell fragments
320	340	Sandy silt (sZ); silt and very fine to fine sand; well sorted; subangular to subrounded; dark olive gray (5Y 3/2); quartz, mica
340	360	Sandy silt (sZ); silt and very fine to fine sand; well sorted; subangular to subrounded; dark olive gray (5Y 3/2); quartz, mica, fossil shell fragments
360	380	Sand (S); fine to medium sand with some very fine sand; well sorted; subangular to subrounded; dark olive gray (5Y 3/2); quartz, mica, occasional fossil shell fragments
380	400	Sand (S); fine to coarse sand with some very coarse sand; moderately sorted; subangular to rounded; dark olive gray (5Y 3/2); quartz, mica, fossil shell fragments
400	420	Slightly gravelly sand ((g)S); medium to coarse sand with occasional very coarse sand and gravel; moderately sorted; subangular to subrounded; dark olive gray (5Y 3/2); quartz
420	440	Sand (S); medium sand with some fine to coarse sand; well sorted; subangular to rounded; dark olive gray (5Y 3/2); quartz
440	460	Silty sand (zS); fine to medium sand with some very fine to coarse sand and silt; moderately sorted; subangular to rounded; dark olive gray (5Y 3/2); quartz, mica, occasional fossil shell fragments
460	480	Silty sand (zS); fine to medium sand with some silt; well sorted; subangular to rounded; dark olive gray (5Y 3/2); quartz, mica, occasional fossil shell, pyrite found in sample
480	500	Silty sand (zS); fine to medium sand with some silt; well sorted; subangular to rounded; dark olive gray (5Y 3/2); quartz, mica

**Table 6.** Lithologic sieve log for multiple-well monitoring site GARDENA-1 (3S/14W-13J5–8), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
500	520	Silty sand (zS); fine to medium sand with some silt and coarse sand; well sorted; subangular to subrounded; dark olive gray (5Y 3/2); quartz, mica
520	540	Sand (S); fine to medium sand with some coarse sand; well sorted; subangular to subrounded; dark olive gray (5Y 3/2); quartz
540	560	Silty sand (zS); fine to medium with some very fine sand and silt; well sorted; subangular to subrounded; dark olive gray (5Y 3/2); quartz
560	580	Silty sand (zS); very fine to medium sand with some silt; moderately sorted; subangular to subrounded; dark olive gray (5Y 3/2)
580	600	Silty sand (zS); fine to medium sand with some silt to very fine sand; moderately sorted; subangular to subrounded; dark olive gray (5Y 3/2)
600	620	Silty sand (zS); fine sand with some silt to very fine sand; well sorted; subangular to subrounded; dark olive gray (5Y 3/2); fossil shell fragments
620	640	Sandy silt (sZ); silt with some very fine to fine sand; well sorted; subangular to subrounded; dark olive gray (5Y 3/2)
640	660	Sand (S); fine to medium sand; well sorted; subangular to subrounded; dark olive gray (5Y 3/2)
660	680	Sand (S); fine to medium sand with some coarse sand; well sorted; subangular to subrounded; dark olive gray (5Y 3/2)
680	740	Sandy silt (sZ); silt with some very fine to fine sand; well sorted; subangular to subrounded; dark olive gray (5Y 3/2)
740	760	Sandy silt (sZ); silt with some very fine sand; well sorted; dark olive gray (5Y 3/2)
760	780	Sandy silt (sZ); silt with some very fine sand; well sorted; dark olive gray (5Y 3/2)
780	800	Silty sand (zS); very fine sand with some silt; well sorted; subangular to subrounded; dark olive gray (5Y 3/2)
800	820	Silty sand (zS); very fine to fine sand with some silt; well sorted; subangular to subrounded; dark olive gray (5Y 3/2)
820	840	Silty sand (zS); fine to medium sand with some very fine sand and silt; well sorted; subangular to subrounded; grayish olive (10Y 5/2)
840	860	Silty sand (zS); fine to medium sand with some very fine sand and silt; well sorted; subangular to subrounded; grayish olive (10Y 4/2)
860	880	Sandy clayey silt (sM); silt with some clay and very fine sand; well sorted; dark greenish gray (10Y 4/1)
880	900	Silty sand (zS); fine to medium sand with some silt to very fine sand; moderately sorted; subangular to subrounded; dark greenish gray (10Y 4/1)
900	920	Silty sand (zS); fine to medium sand with some silt to very fine sand; moderately sorted; dark greenish gray (10Y 3/1)
920	940	Sandy silt (sZ); silt with some very fine to fine sand; well sorted; dark greenish gray (10Y 3/1)
940	980	Silty sand (zS); fine sand with some very fine sand and silt; well sorted; subangular to subrounded; dark greenish gray (10Y 3/1)
980	1,000	Silty sand (zS); fine to medium sand with some very fine sand and silt; well sorted; subangular to subrounded; dark greenish gray (10Y 3/1)
1,000	1,020	Silty sand (zS); fine sand with some very fine sand and silt; well sorted; subangular to subrounded; dark greenish gray (10Y 3/1)

**Table 7.** Lithologic sieve log for multiple-well monitoring site HAWTHORNE-1 (3S/14W-17G3-8), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	20	Clayey sand (cS); medium to fine sand with clay and some coarse to very coarse sand; poorly sorted; subrounded; pale olive (5Y 6/4)
20	40	Sandy clay (sC); clay with fine to medium sand and some coarse to very coarse sand; poorly sorted; subrounded; olive (5Y 5/4)
40	60	Sandy silty clay (sM); clay and silt with some very fine to fine sand; moderately sorted; subrounded; pale olive (5Y 6/4)
60	80	Gravelly sand (gS); medium to coarse sand with some very coarse sand, granules and small pebbles; moderately sorted; subrounded; olive (5Y 4/4)
80	100	Sand (S); medium to fine sand with some coarse sand; well sorted; subrounded; olive (5Y 4/4)
100	120	Sand (S); medium to fine sand with some coarse to very coarse sand; moderately sorted; subrounded; olive (5Y 4/4)
120	140	Slightly silty sand (zS); fine to medium sand with some coarse sand and silt; well sorted; subrounded; olive (5Y 4/3)
140	160	Sand (S); fine to very fine sand with some medium to coarse sand; well sorted; subrounded; olive gray (5Y 4/2)
160	180	Sand (S); fine to very fine sand; well sorted; subrounded; dark olive gray (5Y 3/2)
180	200	Sand (S); fine to very fine sand; well sorted; subrounded; dark greenish gray (5GY 3/1)
200	220	Silty sand (zS); fine to very fine sand with silt; well sorted; subrounded; dark greenish gray (5GY 3/1)
220	240	Sand (S); fine to medium sand; well sorted; subrounded; dark greenish gray (5GY 4/1)
240	260	Sand (S); fine to medium sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
260	280	Sand (S); fine to very fine sand with some medium to coarse sand; moderately sorted; subrounded; dark greenish gray (5GY 4/1)
280	300	Sand (S); fine to medium sand with some coarse to very coarse sand; moderately sorted; subrounded; dark greenish gray (5GY 4/1)
300	320	Sand (S); medium to fine sand with coarse to very coarse sand and some wood fragments; moderately sorted; subrounded; dark greenish gray (5GY 4/1)
320	340	Sand (S); medium to coarse sand with some very coarse and fine sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
340	360	Sand (S); fine to medium sand with some coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
360	380	Sand (S); medium to fine sand with some coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
380	400	Sand (S); medium to coarse sand with some very coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
400	420	Sand (S); coarse to very coarse sand with some medium sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
420	440	Sand (S); fine to coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
440	460	Gravelly sand (gS); fine to coarse sand with very coarse sand and granules; moderately sorted; subrounded; greenish gray (10Y 5/1)
460	480	Slightly silty sand (S); fine to medium sand with some very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
480	500	Silty sand (zS); fine to very fine sand with silt; well sorted; subrounded; dark greenish gray (5GY 3/1)
500	520	Sand (S); medium to fine sand with coarse to very coarse sand; moderately sorted; subrounded; dark greenish gray (5GY 4/1)
520	540	Gravelly sand (gS); medium to very coarse sand and granules; moderately sorted; subrounded; olive gray (5Y 4/2)

**Table 7.** Lithologic sieve log for multiple-well monitoring site HAWTHORNE-1 (3S/14W-17G3–8), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
540	560	Sand (S); medium to coarse sand with some very coarse sand; well sorted; subrounded; greenish gray (10Y 5/1)
560	580	Sand (S); fine to medium sand with coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
580	600	Silty sand (zS); fine to very fine sand with silt; well sorted; subrounded; black (5Y 2.5/2)
600	620	Silty sand (zS); very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
620	660	Silty sand (zS); fine to medium sand with very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 3/1)
660	680	Sandy silt (sZ); silt and very fine sand with some coarse to very coarse sand; well sorted; subrounded; dark greenish gray (10Y 3/1)
680	700	Silty sand (zS); very fine sand and silt with some medium to coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
700	720	Silty sand (zS); fine to medium sand with very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 3/1)
720	760	Sand (S); medium to coarse sand with some very coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
760	780	Silty sand (zS); very fine sand and silt with fine to coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
780	800	Sandy silt (sZ); silt and very fine sand with some fine to coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
800	840	Slightly clayey sandy silt (sZ); silt and very fine sand with some clay; well sorted; subrounded; dark greenish gray (10Y 4/1)
840	860	Sandy silt (sZ); silt and very fine sand with occasional fine to medium sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
860	940	Silty sand (zS); medium to fine sand with very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
940	960	Silty sand (zS); coarse to fine sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
960	980	Silty sand (zS); medium to fine sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
980	1,000	Silty sand (zS); very fine sand and silt with some fine to medium sand; moderately sorted; subrounded; dark greenish gray (10Y 3/1)

**Table 8.** Lithologic sieve log for multiple-well monitoring site HUNTINGTON PARK-1 (2S/13W-22C1–5), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	20	Clayey sand (cS); medium to coarse sand with clay, some fine sand; poorly sorted; subangular to rounded; olive (5Y 5/4)
20	40	Gravelly sand (gS); coarse sand with some medium sand and granule- to medium pebble-sized gravel; poorly sorted; subangular to rounded; light olive gray (5Y 6/2)
40	60	Sandy gravel (sG); granule- to medium pebble-sized gravel with some fine to coarse sand; very poorly sorted; subangular to subrounded; light olive gray (5Y 6/2)
60	80	Sandy gravel (sG); granule- to medium pebble-sized gravel with some fine to very coarse sand; very poorly sorted; subangular to subrounded; light olive gray (5Y 6/2)
80	100	Clayey sand (cS); fine to medium sand with some clay and occasional granule- to small pebble-sized gravel; poorly sorted; subangular to subrounded; olive (5Y 5/4)
100	120	Sand (S); medium sand with some fine to very coarse sand; moderately sorted; subangular; olive (5Y 5/6)
120	140	Sand (S); fine to medium sand with some coarse sand; moderately sorted; subangular; olive (5Y 5/6)
140	160	Clayey sand (cS); fine to medium sand with some clay; moderately sorted; subangular to subrounded; olive (5Y 5/6)
160	180	Sandy clay (sC); clay with some fine to medium sand; moderately sorted; subangular to subrounded; olive (5Y 5/4)
180	200	Silty sand (zS); fine to medium sand with some very fine sand and silt; moderately sorted; subangular; olive (5Y 5/4)
200	220	Sandy clay (sC); clay with very fine to fine sand; moderately sorted; subangular to subrounded; olive brown (2.5Y 4/3)
220	240	Silty sand (zS); medium sand with some fine to coarse sand and silt; moderately sorted; subangular to subrounded; olive (5Y 5/4)
240	260	Sand (S); fine to medium sand with some very fine sand; well sorted; subangular to subrounded; olive (5Y 5/4)
260	280	Sand (S); fine to medium sand with some very fine to very coarse sand; poorly sorted; subangular to subrounded; olive (5Y 5/4)
280	300	Slightly gravelly sand ((g)S); medium sand with some very fine to very coarse sand and granule- to small pebble-sized gravel; poorly sorted; angular to subrounded; olive (5Y 5/4)
300	320	Gravelly silty sand (gmS); very fine to fine sand with some medium sand, silt, and granule to pebble size gravel; poorly sorted; subangular to subrounded; olive gray (5Y 4/2)
320	340	Sandy clay (sC); clay with some very fine to medium sand; poorly sorted; subangular to subrounded; olive gray (5Y 4/2); micas
340	360	Sandy silty clay (sM); clay with some silt and very fine to fine sand; poorly sorted; subangular to subrounded; dark gray (5Y 4/1)
360	380	Sandy silty clay (sM); clay with some silt and very fine to coarse sand; poorly sorted; subangular to subrounded; dark olive gray (5Y 3/2)
380	400	Clay (C); clay with occasional sand grains; well sorted; olive gray (5Y 5/2) to dark olive gray (5Y 3/2)
400	420	Sand (S); fine to medium sand with some coarse sand; moderately sorted; subangular to subrounded; olive gray (5Y 5/2)
420	440	Gravelly sand (gS); medium sand with some fine to coarse sand and granule- to large pebble-sized gravel; poorly sorted; olive gray (5Y 5/2)
440	460	Clayey sand (cS); fine to medium sand with some clay and very fine sand; poorly sorted; subangular to subrounded; grayish brown (5Y 3/2)
460	480	Clayey sand (cS); very fine to fine sand with some clay; moderately sorted; subangular to subrounded; olive gray (5Y 3/2)
480	500	Clayey sand (cS); very fine to fine sand with some medium sand and clay; moderately sorted; subangular to subrounded; olive gray (5Y 3/2)

**Table 8.** Lithologic sieve log for multiple-well monitoring site HUNTINGTON PARK-1 (2S/13W-22C1–5), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
500	520	Clayey sand (cS); fine to medium sand with some clay and very fine sand; poorly sorted; subangular to subrounded; olive (5Y 5/4)
520	540	Clayey sand (cS); very fine to fine sand with some clay; moderately sorted; subangular to subrounded; dark olive gray (5Y 3/2)
540	560	Sandy clay (sC); clay with some very fine to fine sand; moderately sorted; subangular to subrounded; dark olive gray (5Y 3/2)
560	580	Sandy clay (sC); clay with some very fine to fine sand; moderately sorted; subangular; dark grayish brown (10YR 4/2)
580	600	Silty sandy clay (sM); clay with very fine sand and silt; moderately sorted; subangular; grayish olive (10Y 4/2)
600	620	Silty sandy clay (sM); clay with some very fine to medium sand and silt; poorly sorted; subangular to subrounded; grayish olive (10Y 5/2)
620	640	Sand (S); fine to medium sand; well sorted; subangular to subrounded; olive gray (5Y 5/2)
640	660	Clayey sand (cS); fine to medium sand with some clay and very fine sand and some coarse to very coarse sand; moderately sorted; subangular to subrounded; dark olive gray (5Y 3/2)
660	680	Clayey sand (cS); fine to medium sand with some clay and very fine sand; moderately sorted; subangular to subrounded; dark olive gray (5Y 3/2)
680	700	Clayey silty sand (mS); very fine to fine sand and silt with some clay; moderately sorted; subangular to subrounded; dark olive gray (5Y 3/2)
700	720	Clayey sand (cS); medium sand and clay with some very fine to very coarse sand; poorly sorted; subangular to subrounded; olive (5Y 4/4)
720	760	Silty clayey sand (mS); very fine to fine sand with some clay and silt; moderately sorted; subangular to subrounded; olive (5Y 4/4)
760	780	Sand (S); fine sand; moderately sorted; subangular; dark grayish brown (10YR 4/2)
780	800	Sand (S); very fine to fine sand; well sorted; subangular to subrounded; olive gray (5Y 4/2)
800	820	Sandy silt (sZ); silt with some very fine sand; well sorted; dark gray (5Y 4/1)
820	840	Sandy clay (sC); clay with some fine to coarse sand; poorly sorted; subangular to subrounded; dark gray (5Y 4/1)
840	860	Sand (S); very fine to fine sand; well sorted; subangular to subrounded; dark gray (5Y 4/1); fossil shell fragment
860	880	Slightly silty sand (zS); very fine to fine sand with occasional silt; well sorted; subangular to subrounded; dark gray (5Y 4/1); occasional fossil shell fragment
880	900	Silty sand (zS); very fine to fine sand with some silt; well sorted; subangular to subrounded; dark gray (5Y 4/1)
900	920	Silty sand (zS); very fine to fine sand with some silt and occasional medium to coarse sand; moderately sorted; subangular to subrounded; dark gray (5Y 4/1)
920	940	Silty sand (zS); fine to medium sand with some silt and very fine to coarse sand; poorly sorted; subangular to subrounded; dark gray (5Y 4/1); occasional fossil shell fragment
940	960	Silty sand (zS); fine to medium sand with some silt and very fine to coarse sand; poorly sorted; subangular to subrounded; dark gray (5Y 4/1); occasional fossil shell fragment
960	980	Sand (S); fine to medium sand with some coarse and occasional very coarse sand; moderately sorted; subangular to subrounded; dark greenish gray (10Y 3/1)
980	1,000	Sand (S); fine to medium sand with some very fine and occasional coarse sand; moderately sorted; subangular to subrounded; dark greenish gray (10Y 3/1)
1,000	1,020	Sand (S); fine sand with some very fine sand; well sorted; subangular to subrounded; dark greenish gray (10Y 3/1)

**Table 9.** Lithologic sieve log for multiple-well monitoring site INGLEWOOD-1 (2S/14W-28M3-7), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	20	Clayey sand (cS); fine to coarse sand with some clay; moderately sorted; subrounded; olive brown (2.5Y 4/4)
20	40	Sandy silty clay (sM); clay with some silt and very fine to fine sand; moderately sorted; subrounded; olive (5Y 5/3)
40	60	Slightly clayey sand (S); coarse to fine sand with occasional clay; well sorted; subrounded; olive (5Y 5/4)
60	80	Slightly clayey sand (S); coarse to fine sand with occasional clay; well sorted; subrounded; olive (5Y 5/3)
80	100	Slightly clayey silty sand (zS); fine to very fine sand and silt with some medium to coarse sand and occasional clay; poorly sorted; subrounded; olive (5Y 5/4)
100	120	Slightly gravelly sand (S); medium to very coarse sand with occasional granules and pebbles less than 8 millimeter diameter; well sorted; subrounded; olive (5Y 5/4)
120	140	Clayey silt (M); silt with clay; well sorted; subrounded; olive (5Y 5/3)
140	160	Gravelly sand (gS); very coarse to coarse sand with granules and some pebbles greater than 8 millimeter diameter; moderately sorted; subrounded; olive (5Y 4/3)
160	180	Gravelly sand (gS); very fine to medium sand with some very coarse sand and granules and occasional pebbles less than 8 millimeter diameter; very poorly sorted; subrounded; olive (5Y 5/3)
180	220	Sand (S); very fine to medium sand; well sorted; subrounded; olive (5Y 4/3)
220	240	Silty sand (zS); very fine to fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 3/1)
240	280	Silty sand (zS); fine to medium sand with very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 3/1)
280	300	Silty sand (zS); fine to coarse sand with very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 3/1)
300	360	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 3/1)
360	380	Sandy silt (sZ); silt with very fine to fine sand; well sorted; subrounded; dark gray (N 4/1)
380	400	Sandy silt (sZ); silt with very fine to fine sand and occasional shell fragments; well sorted; subrounded; dark greenish gray (10Y 3/1)
400	420	Silty sand (zS); very fine to medium sand with silt; moderately sorted; subrounded; dark greenish gray (10Y 3/1)
420	440	Silty sand (zS); fine to coarse sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 3/1)
440	480	Gravelly sand (gS); fine to very fine sand with some very coarse sand and granules; moderately sorted; subrounded; dark greenish gray (10Y 3/1)
480	500	Sandy silt (sZ); silt with very fine to fine sand; well sorted; subrounded; dark greenish gray (10Y 3/1)
500	520	Silty sand (zS); very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
520	640	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark greenish gray (10Y 3/1)
640	700	Sandy silt (sZ); silt with very fine to fine sand; well sorted; subrounded; dark greenish gray (10Y 3/1)
700	780	Slightly clayey sandy silt (sZ); silt with very fine sand and occasional clay; well sorted; subrounded; dark greenish gray (10Y 4/1)
780	820	Slightly clayey sandy silt (sZ); silt and very fine sand with occasional clay; well sorted; subrounded; dark greenish gray (10Y 4/1)
820	860	Sandy silt (sZ); silt with very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
860	880	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
880	900	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 3/1)
900	920	Sandy silt (sZ); silt with very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
920	940	Slightly clayey sandy silt (sZ); silt with very fine sand and occasional clay; well sorted; subrounded; dark greenish gray (10Y 4/1)



**Table 9.** Lithologic sieve log for multiple-well monitoring site INGLEWOOD-1 (2S/14W-28M3–7), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
940	960	Silty sand (zS); fine to very fine sand with silt; well sorted; subrounded; dark greenish gray (10Y 3/1)
960	1,000	Silt (Z); silt; very well sorted; subrounded; dark greenish gray (10Y 4/1)
1,000	1,040	Sandy silt (sZ); silt with very fine to fine sand; well sorted; subrounded; dark greenish gray (10Y 3/1)
1,040	1,060	Silty sand (zS); fine to very fine sand with silt; well sorted; subrounded; dark greenish gray (10Y 3/1)
1,060	1,080	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark greenish gray (10Y 3/1)
1,080	1,100	Sandy silt (sZ); silt with some very fine sand; well sorted; subrounded; dark greenish gray (10Y 3/1)
1,100	1,200	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 3/1)
1,200	1,220	Slightly clayey sandy silt (sZ); silt with very fine sand with occasional clay; well sorted; subrounded; dark greenish gray (10Y 3/1)
1,220	1,240	Slightly clayey sandy silt (sZ); silt with very fine sand and occasional clay; well sorted; subrounded; dark greenish gray (10Y 3/1)
1,240	1,260	Clay (C); clay; very well sorted; subrounded; dark greenish gray (10Y 3/1)
1,260	1,280	Silty clay (M); clay and silt; well sorted; subrounded; dark greenish gray (10Y 3/1)
1,280	1,300	Clayey silt (M); silt with some clay; well sorted; subrounded; dark greenish gray (10Y 3/1)
1,300	1,320	Slightly clayey sandy silt (sZ); silt with very fine sand and occasional clay; well sorted; subrounded; dark greenish gray (10Y 3/1)
1,320	1,340	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark greenish gray (10Y 3/1)
1,340	1,360	Slightly clayey silt (Z); silt with occasional clay; well sorted; subrounded; dark greenish gray (10Y 3/1)
1,360	1,380	Slightly clayey sandy silt (sZ); silt and very fine sand with occasional clay; well sorted; subrounded; dark greenish gray (10Y 3/1)
1,380	1,420	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 3/1)

**Table 10.** Lithologic sieve log for multiple-well monitoring site INGLEWOOD-2 (2S/14W-26N3–6), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	20	Sandy clayey silt (sM); silt and clay with very fine sand and occasional coarse sand; well sorted; subrounded; gray (5Y 5/1)
20	40	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; olive gray (5Y 5/2)
40	60	Silty sand (zS); medium to very fine sand and silt; moderately sorted; subrounded; olive gray (5Y 5/2)
60	80	Silty sand (zS); coarse to fine sand with some very fine sand and silt; moderately sorted; subrounded; olive gray (5Y 5/2)
80	100	Gravelly silty sand (gmS); fine to coarse sand with some very fine sand and silt and very coarse sand and granules; poorly sorted; subrounded; dark greenish gray (5GY 4/1)
100	120	Gravelly silty sand (gmS); fine to coarse sand with very fine sand and silt and very coarse sand and granules; poorly sorted; subrounded; dark greenish gray (10Y 4/1)
120	140	Silty gravelly sand (gmS); coarse to very coarse sand with granules and pebbles less than 10 millimeter diameter and some medium sand to silt; very poorly sorted; subrounded; dark greenish gray (10Y 4/1)
140	200	Gravelly sand (gS); very fine to very coarse sand with granules; poorly sorted; subrounded; dark greenish gray (10Y 4/1)
200	220	Gravelly sand (gS); fine to very coarse sand with granules; poorly sorted; subrounded; dark greenish gray (10Y 4/1)
220	240	Gravelly sand (gS); fine to very coarse sand with granules and pebbles less than 10 millimeter diameter; very poorly sorted; subrounded; dark greenish gray (10Y 4/1)
240	260	Sandy silt (sZ); silt with very fine to very coarse sand; poorly sorted; subrounded; dark greenish gray (10Y 4/1)
260	280	Sandy silt (sZ); silt and very fine sand with occasional coarse sand and wood fragments; well sorted; subrounded; greenish black (10Y 2.5/1)
280	300	Sandy silt (sZ); silt and very fine sand with occasional coarse sand and wood fragments; well sorted; subrounded; dark greenish gray (10Y 3/1)
300	320	Silty sand (zS); very fine sand and silt with fine to very coarse sand; poorly sorted; subrounded; dark greenish gray (10Y 3/1)
320	340	Silty sand (zS); medium to coarse sand with some fine sand to silt; moderately sorted; subrounded; dark greenish gray (10Y 3/1)
340	360	Silty sand (zS); medium to very coarse sand with some fine sand to silt; poorly sorted; subrounded; dark greenish gray (10Y 3/1)
360	380	Sandy silt (sZ); silt and very fine sand with some medium to very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 3/1)
380	400	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark greenish gray (10Y 3/1)
400	420	Sandy silt (sZ); silt and very fine to fine sand; well sorted; subrounded; dark greenish gray (10Y 3/1)
420	440	Sandy silt (sZ); silt and very fine to fine sand with occasional wood fragments; well sorted; subrounded; dark greenish gray (10Y 3/1)
440	500	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark greenish gray (10Y 3/1)
500	560	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
560	580	Sandy silt (sZ); silt and some very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
580	620	Silt (Z); silt; very well sorted; subrounded; dark greenish gray (10Y 4/1)
620	680	Silt (Z); silt with occasional wood and shell fragments; very well sorted; subrounded; dark greenish gray (10Y 4/1)
680	700	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
700	720	Sandy silt (sZ); silt and very fine sand with occasional wood fragments; well sorted; subrounded; dark greenish gray (10Y 4/1)
720	740	Silt (Z); silt; very well sorted; subrounded; dark greenish gray (10Y 4/1)

**Table 10.** Lithologic sieve log for multiple-well monitoring site INGLEWOOD-2 (2S/14W-26N3–6), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
740	780	Clayey silt (Z); silt with some clay and occasional wood fragments; well sorted; subrounded; dark greenish gray (10Y 3/1)
780	800	Clayey silt (Z); silt with some clay; well sorted; subrounded; dark greenish gray (10Y 3/1)
800	820	Clayey silt (Z); silt with some clay and occasional wood fragments; well sorted; subrounded; dark greenish gray (10Y 3/1)
820	880	Silt (Z); silt; very well sorted; subrounded; dark greenish gray (10Y 3/1)

**Table 11.** Lithologic sieve log for multiple-well monitoring site LA MIRADA-1 (3S/11W-26E2–6), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	20	Clayey sand (cS); fine to very coarse sand with clay; poorly sorted; subrounded; light olive brown (2.5Y 5/4)
20	40	Clayey sand (cS); fine to very coarse sand and clay; poorly sorted; subrounded; light olive brown (2.5Y 5/4)
40	60	Clayey silty sand (mS); very fine to fine sand with silt and some clay; moderately sorted; subrounded; olive brown (2.5Y 4/3)
60	80	Silty sand (zS); fine to coarse sand with some silt; moderately sorted; subrounded; olive brown (2.5Y 4/3)
80	100	Slightly gravelly clayey silty sand ((g)mS); fine to coarse sand with silt and clay and occasional very coarse sand and granules to small pebbles; very poorly sorted; subrounded; olive brown (2.5Y 4/3)
100	120	Clayey silty sand (mS); fine to coarse sand with silt and clay; poorly sorted; subrounded; olive brown (2.5Y 4/3)
120	140	Clayey silty sand (mS); fine to medium sand with very fine sand, silt and clay; moderately sorted; subrounded; olive brown (2.5Y 4/3)
140	160	Sandy silty clay (sM); clay and silt with some very fine to fine sand; moderately sorted; subrounded; olive brown (2.5Y 4/3)
160	180	Sandy silty clay (sM); clay and silt with very fine to fine sand; moderately sorted; subrounded; dark olive brown (2.5Y 3/3)
180	200	Sandy silty clay (sM); clay and silt with very fine to medium sand; moderately sorted; subrounded; light olive brown (2.5Y 5/3)
200	220	Clayey silty sand (mS); coarse to very fine sand with silt and clay; poorly sorted; subrounded; olive brown (2.5Y 4/3)
220	240	Clayey silty sand (mS); very fine to medium sand with silt and clay and occasional coarse to very coarse sand; moderately sorted; subrounded; olive brown (2.5Y 4/3)
240	260	Clayey silty sand (mS); very fine to medium sand with silt and clay; moderately sorted; subrounded; olive brown (2.5Y 4/3)
260	280	Clayey silty sand (mS); very fine to fine sand with silt and clay; moderately sorted; subrounded; olive brown (2.5Y 4/3)
280	300	Clayey silty sand (mS); very fine to medium sand with silt and clay; moderately sorted; subrounded; olive brown (2.5Y 4/3)
300	320	Clayey silty sand (mS); fine to very coarse sand with silt and clay; poorly sorted; subrounded; olive brown (2.5Y 4/3)
320	340	Slightly sandy silty clay (M); clay and silt with occasional very fine to medium sand; well sorted; subrounded; olive (5Y 5/3)
340	360	Sandy silty clay (sM); clay and silt with fine to medium sand; moderately sorted; subrounded; olive (5Y 5/3)
360	380	Slightly clayey silty sand (zS); fine to medium sand with very fine sand to silt and occasional clay; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
380	400	Clayey sand (cS); fine to coarse sand with some clay; moderately sorted; subrounded; olive (5Y 4/3)
400	420	Clayey silty sand (mS); very fine to medium sand with some silt and clay; moderately sorted; subrounded; olive (5Y 4/3)
420	440	Clayey silty sand (mS); very fine to fine sand with silt and clay; moderately sorted; subrounded; olive gray (5Y 5/2)
440	460	Sandy clayey silt (sM); silt and clay with some very fine to fine sand; moderately sorted; subrounded; olive gray (5Y 5/2)
460	480	Silty sand (zS); coarse to fine sand with some very fine sand and silt; moderately sorted; subrounded; olive gray (5Y 5/2)
480	500	Silty sand (zS); very coarse to fine sand with some very fine sand and silt; poorly sorted; subrounded; olive (5Y 5/3)
500	520	Slightly clayey silty sand (zS); medium to very fine sand with silt and some clay; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
520	540	Sandy silty clay (sM); clay and silt with some very fine to medium sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)

**Table 11.** Lithologic sieve log for multiple-well monitoring site LA MIRADA-1 (3S/11W-26E2-6), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
540	560	Sandy clayey silt (sM); silt and clay with some very fine to fine sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
560	580	Clayey silty sand (mS); fine to very fine sand with silt and clay; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
580	600	Sandy silty clay (sM); clay and silt with some very fine to fine sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
600	620	Silty sand (zS); very fine to fine sand and silt; well sorted; subrounded; olive gray (5Y 4/2)
620	660	Silty sand (zS); very fine to very coarse sand with some silt; poorly sorted; subrounded; olive gray (5Y 4/2)
660	680	Sand (S); fine to very coarse sand; moderately sorted; subrounded; olive (5Y 4/3)
680	720	Slightly gravelly silty sand ((g)mS); very fine to very coarse sand with silt and occasional granules and small pebbles; poorly sorted; subrounded; olive (5Y 4/3)
720	740	Silty sand (zS); fine to coarse sand with very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
740	800	Sandy silt (sZ); silt with very fine to fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
800	820	Silty sand (zS); medium to fine sand with very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
820	860	Slightly clayey sandy silt (sZ); silt with very fine to fine sand and occasional clay and medium sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
860	880	Sandy silt (sZ); silt with very fine to fine sand and occasional medium to coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
880	900	Silty sand (zS); very fine to coarse sand with silt; poorly sorted; subrounded; dark greenish gray (10Y 4/1)
900	920	Sand (S); fine to coarse sand; well sorted; subrounded; olive gray (5Y 4/2)
920	940	Sandy silt (sZ); silt with very fine to medium sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
940	980	Silty sand (zS); fine to coarse sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
980	1,000	Silty sand (zS); fine to coarse sand with very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,000	1,020	Silty sand (zS); fine to very fine sand with silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,020	1,040	Silty sand (zS); medium to very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,040	1,060	Sandy silt (sZ); silt with very fine to medium sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,060	1,080	Silty sand (zS); fine to medium sand with very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,080	1,100	Silty sand (zS); fine to coarse sand with some very coarse sand, very fine sand and silt; poorly sorted; subrounded; dark greenish gray (10Y 4/1)
1,100	1,120	Silty sand (zS); fine to coarse sand with very fine sand and silt and occasional very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,120	1,140	Slightly silty sand (S); fine to coarse sand with occasional very fine sand and silt and very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,140	1,160	Silty sand (zS); fine to coarse sand with very fine sand and silt and occasional very coarse sand; moderately sorted; subrounded; olive gray (5Y 5/2)
1,160	1,180	Clayey sandy silt (sZ); silt with very fine to medium sand and some clay; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,180	1,200	Sandy silt (sZ); silt and very fine to medium sand; moderately sorted; subrounded; dark greenish gray (10Y 3/1)
1,200	1,257	Silty sand (zS); fine to medium sand with very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)

**Table 12.** Lithologic sieve log for multiple-well monitoring site LAKEWOOD-1 (4S/12W-5H5–10), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	20	Silty clay (zC); clay with some silt; well sorted; dark yellowish brown (10YR 4/2) mica; occasional shell fragment
20	40	Silty clay (zC); clay with some silt; well sorted; grayish olive (10Y 4/2)
40	60	Gravelly clayey sand (gmS); medium to coarse sand with some clay and granules to large pebbles; poorly sorted; subangular to rounded; moderate olive brown (5Y 4/4)
60	80	Gravelly sandy clay (gsM); clay with some pebbles and very fine sand; well sorted; light olive gray (5Y 5/2)
80	100	Sand (S); fine to medium sand; well sorted; subangular to subrounded; grayish olive (10Y 4/2)
100	120	Sandy clay (sC); clay with some fine sand; well sorted; subangular to subrounded; grayish olive (10Y 4/2)
120	140	Sand (S); very fine to fine sand; well sorted; subangular to subrounded; grayish olive (10YR 4/2)
140	160	Sand (S); fine to medium sand with some very fine sand; well sorted; subangular to subrounded; grayish olive (10Y 4/2)
160	180	Sand (S); fine to medium sand with some very fine sand; moderately sorted; subangular to subrounded; grayish olive (10Y 4/2)
180	200	Silty sand (zS); fine to medium sand with some very fine sand and silt; poorly sorted; subangular to subrounded; light olive gray (5Y 5/2)
200	220	Silty sand (zS); fine to medium sand with some very fine sand and silt; well sorted; subangular to subrounded; light olive gray (5Y 5/2)
220	240	Silty sand (zS); fine to medium sand with some very fine sand and silt; well sorted; subangular to subrounded; light olive gray (5Y 5/2)
240	260	Sandy clayey silt (sM); silt with some very fine to fine sand and clay; moderately sorted; subangular to subrounded; olive gray (5Y 3/2)
260	280	Sandy clayey silt (sM); silt with some very fine to fine sand and clay; moderately sorted; subangular to subrounded; olive gray (5Y 3/2)
280	300	Silty sand (zS); very fine sand to pebbles with some silt; olive gray (5Y 3/2)
300	320	Gravelly silty clay (gM); clay with silt and granules; poorly sorted; subangular to subrounded; light olive gray (5Y 5/2)
320	340	Sandy clay (sC); clay with some very fine to fine sand; well sorted; subangular to subrounded; grayish olive (10Y 4/2)
340	440	Sandy clayey silt (sM); silt with some clay and very fine sand; well sorted; subangular; grayish olive (10Y 4/2)
440	460	Silty clay (M); clay with some silt; well sorted; subangular to subrounded; grayish olive (10Y 4/2)
460	480	Sand (S); fine to medium sand; well sorted; subangular to subrounded; grayish olive (10Y 4/2)
480	500	Clayey silty sand (mS); very fine to fine sand with some silt and clay; well sorted; subangular to subrounded; grayish olive (10Y 4/2)
500	520	Silty sand (zS); fine to medium sand with some very fine sand and silt; well sorted; subangular to subrounded; grayish olive (10Y 4/2)
520	540	Silty sand (zS); fine to medium sand with some very fine sand and silt; well sorted; subangular to subrounded; grayish olive (10Y 4/2)
540	560	Silty sand (zS); fine to medium sand with some very fine sand and silt; well sorted; subangular to subrounded; greyish olive (10Y 4/2)
560	580	Silty sand (zS); fine sand with some very fine to medium sand and silt; well sorted; subangular to subrounded; grayish olive (10Y 4/2)
580	600	Clayey gravelly sandy silt (gsM); silt with some very fine to fine sand, clay, and pebbles; well sorted; subangular to subrounded; grayish olive (10Y 4/2)
600	620	Silty sand (zS); fine sand with some very fine to medium sand and silt; well sorted; subangular to subrounded; grayish olive (10Y 4/2)

**Table 12.** Lithologic sieve log for multiple-well monitoring site LAKEWOOD-1 (4S/12W-5H5–10), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
620	640	Sand (S); medium sand with some fine sand; well sorted; subangular to rounded; grayish olive (10Y 4/2)
640	660	Sand (S); medium sand with some very fine to fine sand; well sorted; subangular to subrounded; grayish olive (10Y 4/2)
660	680	Sand (S); very fine to fine sand with some medium sand; moderately sorted; subangular to subrounded; grayish olive (10Y 4/2)
680	700	Silty sand (zS); fine sand with some very fine to medium sand and silt; moderately sorted; subangular to subrounded; grayish olive (10Y 4/2)
700	720	Silty sand (zS); very fine sand with some fine sand and silt; well sorted; subangular to subrounded; grayish olive (10Y 4/2)
720	740	Sandy silt (sZ); silt with some very fine to fine sand; well sorted; subangular to subrounded; grayish olive (10Y 4/2)
740	760	Silty sand (zS); very fine sand with some fine sand and silt; well sorted; subangular to subrounded; grayish olive (10Y 4/2)
760	780	Silty sand (zS); very fine sand with some silt; well sorted; subangular to subrounded; grayish olive (10Y 4/2); shell fragments
780	800	Sand (S); fine to medium sand with some very fine sand; well sorted; subangular to subrounded; grayish olive (10Y 4/2)
800	820	Silty sand (zS); very fine sand with some fine sand and silt; well sorted; subangular to subrounded; grayish olive (10Y 4/2); fossil shell fragments
820	840	Sand (S); fine to medium sand with some very fine sand; well sorted; subangular to subrounded; grayish olive (10Y 4/2); fossil shell fragments
840	860	Sandy clay (sC); clay with some very fine to coarse sand; poorly sorted; subangular to subrounded; grayish olive (10Y 4/2); fossil shell fragments
860	880	Silty sand (zS); fine sand with some very fine to medium sand and silt; well sorted; subangular to subrounded; grayish olive (10Y 4/2); fossil shell fragments
880	900	Gravelly sand (gS); very fine to fine sand with some medium sand and pebble-size gravel; well sorted; subangular to subrounded; grayish olive (10Y 4/2); fossil shell fragments
900	920	Sand (S); fine sand with some very fine to medium sand; well sorted; subangular to subrounded; olive gray (5Y 3/2); fossil shell fragments
920	940	Silty sand (zS); fine sand with some very fine to medium sand and silt; well sorted; subangular to subrounded; olive gray (5Y 3/2)
940	1,020	Sand (S); fine to medium sand with some very fine sand; well sorted; subangular to subrounded; olive gray (5Y 3/2)

**Table 13.** Lithologic sieve log for multiple-well monitoring site LOMITA-1 (4S/14W-26A2-7), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	40	Clayey silty sand (mS); fine to very fine sand with silt and some clay; moderately sorted; subrounded; light olive brown (2.5Y 5/3)
40	60	Silty clayey sand (mS); fine to medium sand with very fine sand, clay and silt; moderately sorted; subrounded; light olive brown (2.5Y 5/3)
60	80	Sand (S); medium to coarse sand; well sorted; subrounded; olive brown (2.5Y 4/4)
80	100	Sand (S); medium to very coarse sand; well sorted; subrounded; olive brown (2.5Y 4/4)
100	120	Sand (S); medium to coarse sand with some very coarse sand; well sorted; subrounded; light olive brown (2.5Y 5/4)
120	140	Silty sand (zS); fine to very fine sand with some silt; well sorted; subrounded; olive brown (5Y 4/3)
140	160	Silty sand (zS); fine to very fine sand with some silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
160	180	Silty sand (zS); fine to medium sand with some very fine sand and silt and occasional very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
180	200	Silty sand (zS); fine to medium sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
200	220	Silty sand (zS); fine to coarse sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
220	240	Silty sand (zS); fine to medium sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
240	260	Slightly clayey silty sand (zS); fine to coarse sand with some very fine sand and silt and occasional clay; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
260	280	Silty sand (zS); fine to medium sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
280	300	Sandy silt (sZ); silt with very fine sand and some fine to coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
300	320	Gravelly silty sand (gmS); very fine to very coarse sand with silt, granules and pebbles less than 12 millimeter diameter; very poorly sorted; subrounded; dark greenish gray (10Y 4/1)
320	340	Silty gravelly sand (gmS); medium to very coarse sand with granules and pebbles less than 15 millimeter diameter and some fine sand to silt; very poorly sorted; subrounded; dark greenish gray (10Y 4/1)
340	380	Gravelly sand (gS); fine to very coarse sand with granules and pebbles greater than 15 millimeter diameter; poorly sorted; subrounded; dark greenish gray (10Y 4/1)
380	480	Gravelly sand (gS); medium to very coarse sand with granules and pebbles less than 15 millimeter diameter; poorly sorted; subrounded; dark greenish gray (10Y 4/1)
480	500	Gravelly sand (gS); medium to very coarse sand with some fine to very fine sand, granules and pebbles less than 15 millimeter; very poorly sorted; subrounded; dark greenish gray (10Y 4/1)
500	520	Slightly gravelly sand ((g)S); medium to very coarse sand with some granules and pebbles less than 15 millimeter diameter; poorly sorted; subrounded; dark greenish gray (10Y 4/1)
520	540	Sand (S); fine to very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
540	560	Slightly gravelly sand ((g)S); fine to coarse sand with some very coarse sand and granules; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
560	600	Sand (S); fine to coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
600	620	Sand (S); very fine to medium sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
620	640	Silty sand (zS); very fine to medium sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
640	740	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
740	840	Silty sand (zS); very fine to medium sand with silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)



**Table 13.** Lithologic sieve log for multiple-well monitoring site LOMITA-1 (4S/14W-26A2–7), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
840	880	Silty sand (zS); fine to coarse sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
880	900	Silty sand (zS); fine to medium sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
900	960	Silty sand (zS); very fine to medium sand with some silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
960	980	Slightly clayey silty sand (zS); very fine to fine sand with some silt and occasional clay; well sorted; subrounded; dark greenish gray (10Y 4/1)
980	1,020	Silty sand (zS); very fine to fine sand with some silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,020	1,040	Silty sand (zS); very fine to medium sand with some silt and occasional coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,040	1,220	Silty sand (zS); very fine to medium sand with some silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,220	1,340	Silty sand (zS); fine to medium sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)

**Table 14.** Lithologic sieve log for multiple-well monitoring site LONG BEACH-1 (4S/12W-25G1–6), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	20	Sandy silt (sZ); silt and very fine sand with occasional fine to coarse sand; well sorted; subrounded; olive (5Y 4/3)
20	40	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; olive brown (2.5Y 4/3)
40	60	Silt (Z); silt; very well sorted; subrounded; light olive brown (2.5Y 5/4)
60	80	Clayey sandy silt (sZ); silt with some very fine to medium sand and clay; moderately sorted; subrounded; light olive brown (2.5Y 5/3)
80	100	Sandy silt (sZ); silt with some very fine to medium sand; well sorted; subrounded; olive gray (5Y 5/2)
100	120	Clayey sandy silt (sZ); silt with some very fine to medium sand and clay; moderately sorted; subrounded; gray (5Y 5/1)
120	140	Clayey sandy silt (sZ); silt with very fine to medium sand with some clay and very coarse sand; moderately sorted; subrounded; greenish gray (5GY 5/1)
140	160	Silty sand (zS); fine to coarse sand with some very fine sand and silt and shell fragments; moderately sorted; subrounded; greenish gray (5GY 5/1)
160	180	Slightly clayey silty sand (zS); fine to very fine sand with silt and occasional clay and coarse sand and shell fragments; well sorted; subrounded; greenish gray (5GY 5/1)
180	200	Slightly clayey silty sand (zS); fine to medium sand with very fine sand and silt and occasional clay; moderately sorted; subrounded; greenish gray (5GY 5/1)
200	220	Sandy silt (sZ); silt and very fine sand with some coarse to very coarse sand; well sorted; subrounded; olive gray (5Y 5/2)
220	240	Sandy silt (sZ); silt with very fine to fine sand; well sorted; subrounded; greenish gray (10Y 5/1)
240	260	Sand (S); fine to very fine sand with some coarse to very coarse sand; well sorted; subrounded; greenish gray (10Y 5/1)
260	280	Silty sand (zS); fine to very fine sand and silt with some coarse to very coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
280	320	Silty sand (zS); very fine to fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
320	340	Sandy silt (sZ); silt with very fine to fine sand; well sorted; subrounded; dark greenish gray (5GY 4/1)
340	360	Slightly silty sand (S); medium to coarse sand with occasional very fine sand and silt; well sorted; subrounded; olive gray (5Y 5/2)
360	380	Slightly silty sand (S); coarse to very coarse sand with occasional fine sand to silt; well sorted; subrounded; olive gray (5Y 5/2)
380	420	Sand (S); medium to coarse sand with some fine to very fine sand; moderately sorted; subrounded; olive gray (5Y 5/2)
420	440	Slightly gravelly silty sand ((g)mS); medium to fine sand with some very fine sand and silt and occasional granules and pebbles less than 10 millimeter diameter; moderately sorted; subrounded; olive gray (5Y 4/2)
440	460	Silty sand (zS); medium to fine sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
460	480	Slightly gravelly silty sand ((g)mS); medium to fine sand with some very fine sand and silt and occasional granules and pebbles less than 12 millimeter diameter; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
480	500	Silty sand (zS); medium to fine sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
500	520	Silty sand (zS); medium to fine sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 3/1)
520	540	Silty sand (zS); medium to fine sand with some very fine sand and silt and occasional coarse to very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
540	560	Silty sand (zS); fine to very fine sand and silt with occasional coarse to very coarse sand; well sorted; subrounded; dark gray (N 4/1)
560	580	Silty sand (zS); fine to very fine sand and silt with some coarse to very coarse sand; moderately sorted; subrounded; dark gray (N 4/1)
580	600	Sand (S); fine to very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
600	620	Sand (S); fine to very fine sand with some medium sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
620	640	Sand (S); medium to very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
640	680	Silt (Z); silt; very well sorted; subrounded; dark greenish gray (10Y 4/1)

**Table 14.** Lithologic sieve log for multiple-well monitoring site LONG BEACH-1 (4S/12W-25G1–6), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
680	720	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
720	740	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
740	760	Sand (S); fine to very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
760	800	Sand (S); medium to very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
800	820	Sand (S); medium to very fine sand with some coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
820	840	Sand (S); fine to very fine sand with some coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
840	860	Silty sand (zS); fine to very fine sand with silt and some coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
860	880	Silty sand (zS); fine to very fine sand with silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
880	900	Silty sand (zS); fine to very fine sand with some silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
900	940	Silty sand (zS); coarse to fine sand with some very fine sand and silt; moderately sorted; subrounded; greenish gray (10Y 5/1)
940	960	Silty sand (zS); coarse to medium sand with some fine sand to silt; moderately sorted; subrounded; greenish gray (10Y 5/1)
960	980	Sand (S); medium to fine sand; well sorted; subrounded; greenish gray (10Y 5/1)
980	1,000	Sand (S); medium to fine sand with some coarse to very coarse sand; well sorted; subrounded; greenish gray (10Y 5/1)
1,000	1,020	Sand (S); fine to very fine sand with some coarse sand; well sorted; subrounded; greenish gray (10Y 5/1)
1,020	1,040	Sand (S); medium to very fine sand; well sorted; subrounded; greenish gray (10Y 5/1)
1,040	1,060	Sandy silt (sZ); silt with some coarse to very coarse sand; well sorted; subrounded; dark greenish gray (10Y 3/1)
1,060	1,100	Sandy silt (sZ); silt with some medium to very coarse sand and occasional shell fragments; moderately sorted; subrounded; dark greenish gray (10Y 3/1)
1,100	1,120	Sandy silt (sZ); silt with some medium to very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,120	1,140	Sandy silt (sZ); silt with some fine to coarse sand and wood fragments; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,140	1,160	Silty sand (zS); fine to medium sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,160	1,180	Silty sand (zS); medium to coarse sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,180	1,200	Slightly silty sand (S); coarse to medium sand with occasional very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,200	1,220	Gravelly sand (gS); medium to very coarse sand with some granules and pebbles less than 8 millimeter diameter; moderately sorted; subrounded; greenish gray (10Y 5/1)
1,220	1,240	Sand (S); fine to coarse sand; well sorted; subrounded; greenish gray (10Y 5/1)
1,240	1,280	Silty sand (zS); fine to coarse sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,280	1,300	Silty sand (zS); fine to medium sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,300	1,320	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,320	1,340	Silty sand (zS); very fine to coarse sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,340	1,360	Silty sand (zS); very fine to medium sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,360	1,380	Sand (S); fine to coarse sand; well sorted; subrounded; greenish gray (10Y 5/1)
1,380	1,400	Silty sand (zS); fine to coarse sand with some very fine sand and silt; moderately sorted; subrounded; greenish gray (10Y 5/1)
1,400	1,420	Sand (S); fine to very coarse sand; moderately sorted; subrounded; greenish gray (10Y 5/1)
1,420	1,440	Sand (S); fine to very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,440	1,460	Gravelly sand (gS); fine to coarse sand with some very coarse sand and granules; moderately sorted; subrounded; greenish gray (10Y 5/1)
1,460	1,480	Sand (S); very fine to medium sand; well sorted; subrounded; greenish gray (10Y 5/1)

**Table 15.** Lithologic sieve log for multiple-well monitoring site LONG BEACH-2 (4S/13W-1N3-8), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	20	Sand (S); coarse to fine sand; well sorted; subrounded; light olive brown (2.5Y 5/4)
20	40	Sandy silt (sZ); silt and very fine sand with occasional fine to coarse sand; well sorted; subrounded; olive gray (5Y 4/2)
40	80	Silty sand (zS); coarse to medium sand with some silt; well sorted; subrounded; dark olive gray (5Y 3/2)
80	100	Gravelly sand (gS); coarse to very coarse sand with some granules and pebbles less than 8 millimeter diameter; moderately sorted; subrounded; olive gray (5Y 5/2)
100	120	Gravelly sand (gS); coarse to very coarse sand with some granules and pebbles less than 12 millimeter diameter; moderately sorted
120	140	Clayey silt (Z); silt with some clay; well sorted; subrounded; gray (N 5/1)
140	160	Sand (S); medium to very coarse sand; well sorted; subrounded; olive gray (5Y 4/2)
160	200	Gravelly sand (gS); medium to very coarse sand with some granules and pebbles less than 8 millimeter diameter; moderately sorted; subrounded; olive gray (5Y 4/2)
200	220	Silty sand (zS); very fine to fine sand with silt and occasional medium sand and shell fragments; well sorted; subrounded; dark greenish gray (10Y 4/1)
220	240	Sandy silt (sZ); silt and very fine sand with occasional shell fragments; well sorted; subrounded; dark greenish gray (10Y 4/1)
240	260	Silty sand (zS); fine to medium sand with very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 3/1)
260	280	Sand (S); medium to very coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
280	300	Sandy silt (sZ); silt and very fine sand with some medium to very coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
300	320	Silt (Z); silt with some shell fragments; very well sorted; subrounded; dark greenish gray (10GY 3/1)
320	340	Silt (Z); silt with occasional shell fragments; very well sorted; subrounded; dark greenish gray (10GY 3/1)
340	360	Silty sand (zS); fine to very fine sand with some coarse sand; moderately sorted; subrounded; dark greenish gray (5GY 3/1)
360	380	Silty sand (zS); very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
380	400	Silty sand (zS); coarse sand with fine to very fine sand and silt; moderately sorted; subrounded; dark greenish gray (5GY 4/1)
400	440	Gravelly sand (gS); medium to very coarse sand with some granules; moderately sorted; subrounded; greenish gray (10Y 5/1)
440	460	Gravelly sand (gS); coarse to very coarse sand and granules; well sorted; subrounded; greenish gray (10Y 5/1)
460	480	Gravelly sand (gS); medium to very coarse sand and granules; moderately sorted; subrounded; greenish gray (10Y 5/1)
480	500	Silty sand (zS); very fine sand and silt with some fine to coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 3/1)
500	520	Silt (Z); silt; very well sorted; subrounded; dark greenish gray (10Y 3/1)
520	540	Slightly sandy silt (Z); silt with occasional coarse to very coarse sand and shell fragments; well sorted; subrounded; dark greenish gray (10Y 3/1)
540	640	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark greenish gray (10Y 3/1)
640	660	Silt (Z); silt; very well sorted; subrounded; dark greenish gray (10Y 4/1)
660	680	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
680	700	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 3/1)
700	720	Silty sand (zS); fine to very fine sand with silt; well sorted; subrounded; dark greenish gray (10Y 3/1)

**Table 15.** Lithologic sieve log for multiple-well monitoring site LONG BEACH-2 (4S/13W-1N3-8), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
720	740	Silty sand (zS); coarse to fine sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
740	760	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
760	780	Sandy silt (sZ); silt and very fine to fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
780	800	Silt (Z); silt; very well sorted; subrounded; dark greenish gray (10Y 4/1)
800	820	Silty sand (zS); fine to very fine sand and silt with some medium to coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
820	840	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
840	960	Silt (Z); silt; very well sorted; subrounded; dark greenish gray (10Y 4/1)
960	1,000	Sandy silt (sZ); silt and very fine to fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,000	1,020	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,020	1,120	Silt (Z); silt; very well sorted; subrounded; dark greenish gray (10Y 4/1)

**Table 16.** Lithologic sieve log for multiple-well monitoring site LOS ANGELES-1 (2S/13W-17F1–5), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	20	Silty sand (zS); fine to very fine sand and silt; well sorted; subangular; olive (5Y 5/4)
20	40	Silty sand (zS); fine to very fine sand and silt; well sorted; subangular; olive brown (2.5Y 4/3)
40	60	Slightly gravelly sand ((g)S); fine to medium sand with occasional granules; well sorted; subangular; olive brown (2.5Y 4/3)
60	80	Slightly gravelly sand ((g)S); fine to medium sand with some coarse to very coarse sand and occasional granules; moderately sorted; subangular; olive brown (2.5Y 4/3)
80	100	Sand (S); fine to coarse sand with occasional very coarse sand; well sorted; subangular; light olive brown (2.5Y 5/4)
100	120	Silty sand (zS); fine to coarse sand with some very fine sand and silt; moderately sorted; subangular to subrounded; olive brown (2.5Y 4/3)
120	140	Silty sand (zS); fine to medium sand with some very fine sand and silt; moderately sorted; subangular to subrounded; light olive brown (2.5Y 5/3)
140	160	Silty sand (zS); very coarse to very fine sand and silt; poorly sorted; subrounded; light olive brown (2.5Y 4/3)
160	180	Silty sand (zS); medium to fine sand with very fine sand and silt; moderately sorted; subrounded; light olive brown (2.5Y 5/4)
180	220	Sand (S); medium to very coarse sand; well sorted; subrounded; light olive brown (2.5Y 5/4)
220	240	Gravelly silty sand (gmS); medium to very coarse sand with very fine sand and silt and granules and pebbles less than 10 millimeter diameter; very poorly sorted; subrounded; light olive brown (2.5Y 5/4)
240	255	Sandy silt (sZ); silt with some very fine to very coarse sand; moderately sorted; subrounded; light olive brown (2.5Y 5/4)
255	275	Silty sand (zS); medium to very coarse sand with some very fine sand and silt; moderately sorted; subrounded; light olive brown (2.5Y 5/4)
275	295	Silty sand (zS); fine to coarse sand with very fine sand and silt; poorly sorted; subrounded; light yellowish brown (2.5Y 6/4)
295	315	Silty sand (zS); medium to very coarse sand with very fine sand and silt; poorly sorted; subrounded; light olive brown (2.5Y 5/4)
315	335	Silty sand (zS); medium to coarse sand with some very fine sand and silt; moderately sorted; subrounded; light olive brown (2.5Y 5/4)
335	375	Silty sand (zS); medium to very coarse sand with some very fine sand and silt; moderately sorted; subrounded; light olive brown (2.5Y 5/4)
375	395	Silty sand (zS); fine to very coarse sand with very fine sand and silt; poorly sorted; subrounded; light olive brown (2.5Y 5/4)
395	415	Silty sand (zS); fine to very fine sand with silt; well sorted; subrounded; light olive brown (2.5Y 5/4)
415	435	Silty sand (zS); coarse to very coarse sand with some very fine sand and silt; moderately sorted; subrounded; light olive brown (2.5Y 5/4)
435	455	Silty sand (zS); medium to fine sand with very fine sand and silt; moderately sorted; subrounded; olive (5Y 5/4)
455	475	Silty sand (zS); coarse sand with very fine sand and silt; well sorted; subrounded; light olive brown (2.5Y 5/4)
475	495	Silty sand (zS); coarse to very coarse sand with some fine sand to silt; moderately sorted; subrounded; light olive brown (2.5Y 5/4)
495	515	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; olive gray (5Y 4/2)
520	540	Silty sand (zS); medium to very fine sand with silt; moderately sorted; subrounded; olive (5Y 4/3)
540	560	Slightly silty sand (S); medium to fine sand with occasional very fine sand and silt; well sorted; subrounded; olive (5Y 4/4)
560	580	Sandy silt (sZ); silt with very fine to medium sand; moderately sorted; subrounded; olive (5Y 4/4)
580	620	Silty sand (zS); fine to coarse sand with very fine sand and silt; moderately sorted; subrounded; olive (5Y 5/3)
620	640	Slightly silty sand (S); medium to coarse sand with occasional very fine sand and silt; well sorted; subrounded; olive (5Y 5/3)
640	660	Sand (S); fine to coarse sand; well sorted; subrounded; olive (5Y 5/3)
660	680	Sandy silt (sZ); silt and very fine sand with some medium to coarse sand and occasional wood and shell fragments; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
680	700	Sandy silt (sZ); silt with very fine sand and some medium to coarse sand and shell fragments; well sorted; subrounded; dark greenish gray (10Y 4/1)

**Table 16.** Lithologic sieve log for multiple-well monitoring site LOS ANGELES-1 (2S/13W-17F1–5), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
700	720	Silty sand (zS); fine to coarse sand with very fine sand and silt; moderately sorted; subrounded; olive (5Y 5/3)
720	740	Silty sand (zS); fine to medium sand with very fine sand and silt and occasional coarse sand; moderately sorted; subrounded; olive (5Y 5/3)
740	760	Silty sand (zS); fine to medium sand with very fine sand and silt and occasional coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
760	780	Silty sand (zS); fine to medium sand with very fine sand and silt and occasional coarse sand; moderately sorted; subrounded; olive gray (5Y 5/2)
780	800	Sandy silt (sZ); silt and very fine sand with fine to medium sand; moderately sorted; subrounded; olive gray (5Y 5/2)
800	820	Silty sand (zS); fine to medium sand with very fine sand and silt and occasional coarse sand; moderately sorted; subrounded; olive gray (5Y 5/2)
820	840	Silty sand (zS); fine to coarse sand with some very fine sand and silt; moderately sorted; subrounded; olive gray (5Y 5/2)
840	860	Silty sand (zS); medium to fine sand with very fine sand and silt; moderately sorted; subrounded; olive gray (5Y 5/2)
860	880	Gravelly sand (gS); very coarse to very fine sand with granules and occasional pebbles less than 8 millimeter diameter; very poorly sorted; subrounded; olive gray (5Y 5/2)
880	900	Silty sand (zS); medium to fine sand with very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
900	920	Silty sand (zS); fine to coarse sand with some very fine sand and silt; moderately sorted; subrounded; olive gray (5Y 5/2)
920	960	Silty sand (zS); fine to coarse sand with very fine sand and silt; moderately sorted; subrounded; olive gray (5Y 5/2)
960	980	Silty sand (zS); fine to medium sand with some very fine sand and silt; moderately sorted; subrounded; olive gray (5Y 5/2)
980	1,000	Sandy silt (sZ); silt with some very fine to fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,000	1,020	Sandy silt (sZ); silt with very fine to fine sand and some wood fragments; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,020	1,040	Sandy clayey silt (sM); silt and clay with some very fine to fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,040	1,060	Sandy silty clay (sM); clay and silt with some very fine to fine sand and wood fragments; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,060	1,080	Sand (S); medium to very coarse sand; well sorted; subrounded; greenish gray (10Y 5/1)
1,080	1,100	Silty sand (zS); fine to coarse sand with some very fine sand and silt; moderately sorted; subrounded
1,100	1,120	Silty sand (zS); very fine sand and silt with some fine to medium sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,120	1,140	Sandy silt (sZ); silt and very fine sand with shell and wood fragments; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,140	1,160	Silt (Z); silt with shell fragments; very well sorted; subrounded; dark greenish gray (10Y 4/1)
1,160	1,180	Silt (Z); silt with some shell and wood fragments; very well sorted; subrounded; dark greenish gray (10Y 4/1)
1,180	1,200	Silt (Z); silt with some shell fragments; very well sorted; subrounded; dark greenish gray (10Y 4/1)
1,200	1,220	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,220	1,240	Silty sand (zS); fine to coarse sand with some very fine sand and silt and occasional shell and wood fragments; moderately sorted; subrounded; greenish gray (10Y 5/1)
1,240	1,260	Sandy silt (sZ); silt and very fine sand with some fine to coarse sand and occasional shell and wood fragments; moderately sorted; subrounded; greenish gray (10Y 5/1)
1,260	1,280	Sand (S); fine to coarse sand with wood fragments; well sorted; subrounded; greenish gray (10Y 5/1)
1,280	1,320	Sand (S); fine to coarse sand with some wood and shell fragments; well sorted; subrounded; greenish gray (10Y 5/1)
1,320	1,340	Silty sand (zS); very coarse to very fine sand and silt with some wood and shell fragments; poorly sorted; subrounded; greenish gray (10Y 5/1)
1,340	1,380	Silty sand (zS); fine to coarse sand with very fine sand and silt and some wood and shell fragments; moderately sorted; subrounded; greenish gray (10Y 5/1)

**Table 17.** Lithologic sieve log for multiple-well monitoring site PICO RIVERA-1 (2S/11W-18C4-7), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	20	Slightly gravelly sand ((g)S); medium to coarse sand with some fine to very coarse sand and granules, with some small pebbles; poorly sorted; subangular to subrounded; olive gray (5Y 5/2)
20	60	Sandy gravel (sG); granules to large pebbles with some fine to coarse sand; very poorly sorted; subangular to subrounded; olive gray (5Y 5/2)
60	80	Slightly gravelly sand ((g)S); fine to medium sand with occasional granules to large cobbles; well sorted; subangular to subrounded; olive (5Y 5/3)
80	100	Sandy clay (sC); clay with some fine to coarse sand; poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/3)
100	120	Sandy silty clay (sM); clay with some silt and very fine to medium sand with occasional coarse to very coarse sand; poorly sorted; dark olive gray (5Y 3/2)
120	140	Slightly gravelly clayey sand ((g)mS); medium to coarse sand with some very coarse sand, clay and occasional granules to medium pebbles; poorly sorted; subangular to subrounded; light olive gray (2.5Y 5/3)
140	160	Slightly gravelly silty sand ((g)mS); fine to medium sand with some very fine sand, silt and occasional small to medium pebbles; poorly sorted; subangular to rounded; light olive brown (2.5Y 5/3)
160	180	Clayey sand (cS); fine to coarse sand with some clay and occasional small to medium pebbles; poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/3)
180	200	Silty sandy clay (sM); clay with some silt and very fine to fine sand; occasional granules; poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/3)
200	220	Slightly gravelly silty clayey sand ((g)mS); fine to medium sand with some coarse sand, silt, clay and occasional granule to small pebbles; poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/3)
220	240	Silty sand (zS); very fine to fine sand with some silt; poorly sorted; subangular; olive gray (5Y 4/2)
240	260	Gravelly sand (gS); coarse sand with some fine to very coarse sand and granules to small pebbles; poorly sorted; subangular to subrounded; yellowish brown (10YR 5/4)
260	280	Sandy silty clay (sM); clay with some silt and very fine to fine sand, occasional coarse to very coarse sand; poorly sorted; subangular to subrounded; grayish brown (10YR 5/2)
280	300	Slightly gravelly clayey sand ((g)mS); fine to medium sand with minor clay and occasional granules to small pebbles; poorly sorted; subangular to subrounded; olive (5Y 5/3)
300	320	Slightly gravelly silty sand ((g)mS); fine to coarse sand with some silt and occasional granules; poorly sorted; subangular to subrounded; brown (10YR 4/3)
320	340	Slightly gravelly clayey sand ((g)mS); fine to medium sand with some coarse to very coarse sand, clay and granules to medium pebbles; poorly sorted; subangular to subrounded; dark yellowish brown (10YR 4/4)
340	360	Slightly gravelly clayey sand ((g)mS); fine to medium sand with some clay and granules to medium pebbles; poorly sorted; subangular to subrounded; dark yellowish brown (10YR 4/4)
360	380	Slightly gravelly sand ((g)S); medium sand with some fine to very coarse sand and granules to small pebbles; poorly sorted; angular to subrounded; dark yellowish brown (10YR 4/4); formation change
380	400	Sand (S); medium to coarse sand with occasional very coarse sand and granules; well sorted; subangular to rounded; olive gray (5Y 5/2)
400	420	Slightly gravelly silty clayey sand ((g)mS); very fine to fine sand with some silt, clay and occasional very coarse sand to granules; poorly sorted; subangular to subrounded; grayish olive green (5GY 2.5/3)
420	440	Silty clayey sand (mS); very fine to fine sand with some silty clay; moderately sorted; subangular; olive gray (5Y 3/2)
440	460	Silty clayey sand (mS); fine to medium sand with some clay and silt; moderately sorted; subangular to subrounded; olive gray (5Y 4/2)
460	480	Slightly gravelly clayey sand ((g)mS); medium to coarse sand with some fine sand, clay, and granules to small pebbles; poorly sorted; subangular to rounded; olive gray (5Y 4/2)



**Table 17.** Lithologic sieve log for multiple-well monitoring site PICO RIVERA-1 (2S/11W-18C4-7), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
480	500	Silty sandy clay (sM); clay with some very fine to fine sand and silt; moderately sorted; subangular to subrounded; olive gray (5Y 3/2)
500	520	Sandy silt (sZ); silt with some very fine sand; moderately well sorted; very dark gray (10YR 3/1).
520	540	Silty clay (M); clay with some silt; well sorted; very dark gray (10YR 3/1)
540	560	Sandy silty clay (sM); clay with some silt and very fine sand; well sorted; subangular; very dark gray (10 YR 3/1)
560	580	Silty clay (M); clay with some silt; well sorted; very dark gray (10YR 3/1)
580	620	Clay (C); clay; well sorted; very dark gray (10YR 3/1)
620	640	Gravelly silty clay ((g)sM); clay with some silt and occasional coarse sand and granules; moderately sorted; very dark gray (10YR 3/1)
640	660	Silty clay (M); clay with some silt; well sorted; very dark gray (10YR 3/1)
660	700	Silty clay (M); clay with some silt; well sorted; very dark gray (10YR 3/1)
700	720	No sample
720	740	Silty clay (M); clay with some silt; well sorted; very dark gray (10YR 3/1); occasional fossil material
740	760	Sandy silty clay (sM); clay with some silt and very fine to fine sand; moderately sorted; subangular to subrounded; very dark gray (2.5Y 3/1); occasional fossil material
760	780	Silty clayey sand (mS); very fine to fine sand with some silt and clay; moderately sorted; subangular to subrounded; black (2.5Y 2.5/1); occasional fossil material
780	800	Silty clay (M); clay with some silt; well sorted; black (2.5Y 2.5/1); occasional fossil material
800	820	Sandy silty clay (sM); clay with some silt and very fine sand; moderately sorted; subangular to subrounded; black (2.5Y 2.5/1)
820	840	Sandy silty clay (sM); clay with some silt and very fine sand; moderately sorted; subangular to subrounded; black (2.5Y 2.5/1); occasional fossil material
840	860	Silty clay (M); clay with some silt; well sorted; black (2.5Y 2.5/1)
860	880	Silty sand (zS); very fine to fine sand with some medium sand and silt; moderately sorted; subangular to subrounded; black (2.5Y 2.5/1)
880	900	Silty sand (zS); very fine to fine sand with some silt; moderately sorted; subangular to subrounded; black (2.5Y 2.5/1); occasional fossil shell fragments; possible clam
900	940	Sandy silty clay (sM); clay with some silt and very fine sand; moderately sorted; subangular to subrounded; black (2.5Y 2.5/1)

**Table 18.** Lithologic sieve log for multiple-well monitoring site PICO RIVERA-2 (2S/12W-25G3–8), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	20	Sand (S); coarse to very coarse sand; well sorted; subrounded; olive (5Y 4/3)
20	40	Sandy silt (sZ); silt with some very fine sand and occasional coarse sand; well sorted; subrounded; olive (5Y 4/3)
40	60	Silty gravelly sand (gmS); coarse to very coarse sand with granules and some pebbles less than 8 millimeter diameter and fine sand to silt; very poorly sorted; subrounded; olive brown (2.5Y 4/3)
60	80	Silty gravelly sand (gmS); coarse to very coarse sand with granules and some pebbles less than 12 millimeter diameter and fine sand to silt; very poorly sorted; subrounded; olive brown (2.5Y 4/3)
80	100	Silty gravelly sand (gmS); coarse to very coarse sand with granules and some pebbles less than 8 millimeter diameter and fine sand to silt; very poorly sorted; subrounded; olive brown (2.5Y 4/3)
100	120	Gravelly sand (gS); coarse to very coarse sand with gravel granules and some pebbles less than 8 millimeter diameter; moderately sorted; subrounded; light olive brown (2.5Y 5/3)
120	140	Silty gravelly sand (gmS); coarse to very coarse sand with some granules and pebbles less than 8 millimeter diameter and very fine sand and silt; very poorly sorted; subrounded; light olive brown (2.5Y 5/3)
140	160	Silty gravelly sand (gmS); coarse to very coarse sand with some granules and pebbles less than 8 millimeter diameter and very fine sand and silt; very poorly sorted; subrounded; olive brown (2.5Y 4/4)
160	180	Sandy silt (sZ); silt and very fine sand with occasional very coarse sand; well sorted; subrounded; olive (5Y 4/3)
180	200	Sandy silt (sZ); silt and very fine sand with coarse to very coarse sand; moderately sorted; subrounded; olive brown (2.5Y 4/3)
200	220	Silty sand (zS); coarse to very coarse sand with very fine sand and silt; moderately sorted; subrounded; olive brown (2.5Y 4/3)
220	240	Silty gravelly sand (gmS); coarse to very coarse sand with granules and pebbles less than 8 millimeter diameter and very fine sand and silt; very poorly sorted; subrounded; olive brown (2.5Y 4/4)
240	260	Silty gravelly sand (gmS); coarse to very coarse sand with granules and pebbles less than 12 millimeter diameter and very fine sand and silt; very poorly sorted; subrounded; light olive brown (2.5Y 5/3)
260	280	Silty gravelly sand (gmS); coarse to very coarse sand with granules and pebbles less than 12 millimeter diameter and very fine sand and silt; very poorly sorted; subrounded; olive brown (2.5Y 4/4)
280	300	Gravelly silty sand (gmS); coarse to very coarse sand with some very fine sand and silt and granules and pebbles less than 8 millimeter diameter; very poorly sorted; subrounded; olive brown (2.5Y 4/4)
300	340	Silty gravelly sand (gmS); coarse to very coarse sand with some granules and pebbles less than 8 millimeter diameter and very fine sand and silt; very poorly sorted; subrounded; light olive brown (2.5Y 5/3)
340	380	Slightly gravelly clayey silty sand ((g)mS); coarse to very fine sand and silt with some clay and occasional granules and pebbles less than 8 millimeter diameter; poorly sorted; subrounded; olive brown (2.5Y 4/3)
380	420	Gravelly silty sand (gmS); coarse to very coarse sand with very fine sand and silt and some granules and pebbles less than 8 millimeter diameter; very poorly sorted; subrounded; olive brown (2.5Y 4/4)
420	460	Gravelly silty sand (gmS); coarse to very coarse sand with very fine sand and silt and some granules; poorly sorted; subrounded; light olive brown (2.5Y 5/3)
460	500	Silty sand (zS); medium to coarse sand with some very fine sand and silt; moderately sorted; subrounded; light olive brown (2.5Y 5/4)
500	520	Silty sand (zS); medium to very coarse sand with some very fine sand and silt; moderately sorted; subrounded; light olive brown (2.5Y 5/4)
520	540	Sandy silt (sZ); silt with very fine to fine sand; well sorted; subrounded; olive brown (2.5Y 4/4)
540	560	Silty sand (zS); coarse to fine sand with very fine sand and silt; moderately sorted; subrounded; light olive brown (2.5Y 5/4)

**Table 18.** Lithologic sieve log for multiple-well monitoring site PICO RIVERA-2 (2S/12W-25G3–8), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
560	580	Silty sand (zS); medium to very coarse sand with some very fine sand and silt; poorly sorted; subrounded; olive brown (2.5Y 4/4)
580	620	Slightly silty sand (S); medium to coarse sand with occasional silt; well sorted; subrounded; olive brown (2.5Y 4/3)
620	640	Silty sand (zS); medium to coarse sand with some silt and very fine sand; moderately sorted; subrounded; olive brown (2.5Y 4/3)
640	660	Sandy silt (sZ); silt and very fine sand with some medium to coarse sand; moderately sorted; subrounded; olive brown (2.5Y 4/4)
660	680	Sandy silt (sZ); silt and very fine sand with occasional fine to medium sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
680	700	Silty sand (zS); coarse to medium sand with very fine sand and silt; moderately sorted; subrounded; olive gray (5Y 4/2)
700	720	Sandy silt (sZ); silt with very fine to medium sand; moderately sorted; subrounded; olive gray (5Y 4/2)
720	740	Silty sand (zS); medium to coarse sand with very fine sand and silt; moderately sorted; subrounded; olive brown (2.5Y 4/4)
740	780	Silty sand (zS); medium to very coarse sand with very fine sand and silt; poorly sorted; subrounded; light olive brown (2.5Y 5/4)
780	800	Silty sand (zS); medium to very coarse sand with some very fine sand and silt; poorly sorted; subrounded; light olive brown (2.5Y 5/4)
800	820	Silty sand (zS); medium to very coarse sand with very fine sand and silt; poorly sorted; subrounded; light olive brown (2.5Y 5/4)
820	860	Silty sand (zS); medium to very coarse sand with some very fine sand and silt; poorly sorted; subrounded; light olive brown (2.5Y 5/4)
860	880	Sandy silt (sZ); silt and very fine sand with coarse to very coarse sand; poorly sorted; subrounded; dark greenish gray (5GY 4/1)
880	900	Sandy silt (sZ); silt and very fine sand with occasional medium sand; well sorted; subrounded; olive brown (2.5Y 4/3)
900	920	Sandy silt (sZ); silt and very fine sand and coarse to very coarse sand; poorly sorted; subrounded; olive brown (2.5Y 4/4)
920	960	Silty sand (zS); medium to coarse sand with very fine sand and silt; moderately sorted; subrounded; olive brown (2.5Y 4/3)
960	1,000	Silty sand (zS); medium to coarse sand with very fine sand and silt; moderately sorted; subrounded; olive brown (2.5Y 4/4)
1,000	1,020	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; dark greenish gray (5GY 4/1)
1,020	1,040	Silty sand (zS); fine to very fine sand and silt with some very coarse to coarse sand; poorly sorted; subrounded; dark greenish gray (10Y 4/1)
1,040	1,080	Sandy silt (sZ); silt with very fine to fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,080	1,100	Silty sand (zS); medium to fine sand with very fine sand and silt; moderately sorted; subrounded; olive gray (5Y 4/2)
1,100	1,120	Silty sand (zS); medium to coarse sand with very fine sand and silt; moderately sorted; subrounded; dark grayish brown (2.5Y 4/2)
1,120	1,140	Silty sand (zS); medium to coarse sand with very fine sand and silt; moderately sorted; subrounded; olive brown (2.5Y 4/4)
1,140	1,160	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; olive (5Y 5/4)
1,160	1,180	Silty sand (zS); medium to coarse sand with very fine sand and silt; moderately sorted; subrounded; olive (5Y 5/4)
1,180	1,200	Silty sand (zS); coarse to very coarse sand with some very fine sand and silt; poorly sorted; subrounded; olive (5Y 5/4)

**Table 19.** Lithologic sieve log for multiple-well monitoring site RIO HONDO-1 (2S/12W-26D9–14), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	20	Gravelly sand (gS); very fine to very coarse sand with granules and occasional small pebbles; poorly sorted; subrounded; dark grayish brown (2.5Y 4/2)
20	40	Gravelly sand (gS); very fine to medium sand with coarse and very coarse sand and some medium pebbles; very poorly sorted; subrounded; olive (5Y 4/3)
40	60	Sandy gravel (sG); small pebbles, medium pebbles, granules and very coarse to very fine sand; very poorly sorted; rounded; olive (5Y 4/3)
60	80	Sandy gravel (sG); medium pebbles to very fine sand; very poorly sorted; rounded to subrounded; olive (5Y 4/4)
80	100	Gravelly sand (gS); very coarse to very fine sand with granules and small pebbles and occasional medium pebbles; very poorly sorted; subrounded to rounded; olive (5Y 4/4)
100	120	Slightly clayey gravelly sand (gmS); coarse to very fine sand with medium and small pebbles and some clay; very poorly sorted; subrounded to rounded; olive (5Y 4/4)
120	140	Sandy gravel (sG); medium and small pebbles with granules and very coarse to very fine sands; very poorly sorted; subrounded to rounded; olive (5Y 4/4)
140	160	Silty gravelly sand (gmS); very coarse to very fine sand with granules; medium and small pebbles and silt; very poorly sorted; subrounded to rounded; olive (5Y 4/4)
160	180	Sandy gravel (sG); small and medium pebbles with granules and very coarse to very fine sand; very poorly sorted; subrounded to rounded; olive brown (2.5Y 4/4)
180	200	Clayey sandy gravel (msG); medium and small pebbles with granules, very coarse to very fine sand and clay; very poorly sorted; rounded to subrounded; olive brown (2.5Y 4/4)
200	220	Sandy clayey silt (sM); silt and clay with very fine to fine sand and some medium to very coarse sand; poorly sorted; rounded; light olive brown (2.5Y 5/4)
220	240	Sandy silt (sZ); silt with very fine to fine sand and some medium to very coarse sand; poorly sorted; rounded; olive brown (2.5Y 4/3)
240	260	Silty sand (zS); very fine to very coarse sand with silt; poorly sorted; rounded; olive brown (2.5Y 4/4)
260	280	Silty clayey gravelly sand (gmS); very fine to very coarse sand with small pebbles and granules, silty clay, and some medium pebbles; very poorly sorted; subrounded; olive brown (2.5Y 4/4)
280	300	Silty sandy gravel (msG); medium and small pebbles with granules, very coarse to fine sand and silt; very poorly sorted; subrounded; olive brown (2.5Y 4/4)
300	320	Slightly clayey slightly gravelly silty sand ((g)mS); very fine to medium sand and silt with some granules and coarse to very coarse sand and sandy silty clay and occasional small pebbles; very poorly sorted; subrounded; olive brown (2.5Y 4/4)
320	340	Clayey silty sand (mS); very fine and fine sand with medium sand, silt and silty clay; well sorted; rounded; greenish gray (10Y 5/1)
340	360	Silty sand (zS); very fine to medium sand with silt and some coarse to very coarse sand; well sorted; rounded; olive gray (5Y 4/2)
360	380	Silty sand (zS); very fine to very coarse sand with silt; moderately sorted; rounded; olive brown (2.5Y 4/4)
380	400	Slightly gravelly silty sand ((g)mS); very fine to very coarse sand with silt and occasional granules and small pebbles; poorly sorted; rounded; olive brown (2.5Y 4/4)
400	420	Gravelly sand (gS); very fine to very coarse sand with some granules and small pebbles; poorly sorted; rounded; olive brown (2.5Y 4/4)
420	440	Slightly clayey gravelly sand (gmS); very fine to very coarse sand with some granules and small pebbles and occasional clay; poorly sorted; rounded to subrounded; olive brown (2.5Y 4/4)
440	460	Gravelly sand (gS); very fine to very coarse sand with granules and small pebbles; poorly sorted; subrounded; olive brown (2.5Y 4/4)
460	480	Slightly clayey gravelly silty sand (gmS); very fine to medium sand with silt and medium to very coarse sand, granules, small pebbles and some silty clay; very poorly sorted; subrounded to rounded; olive brown (2.5Y 4/4)
480	500	Clayey silty sand (mS); fine and very fine sand with silt, clay and occasional very coarse sand; moderately sorted; rounded; olive brown (2.5Y 4/3)
500	520	Slightly clayey silty sand (zS); medium to very fine sand with silt, some clay and occasional coarse sand; moderately sorted; rounded; olive brown (2.5Y 4/3)

**Table 19.** Lithologic sieve log for multiple-well monitoring site RIO HONDO-1 (2S/12W-26D9–14), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
520	540	Slightly gravelly slightly clayey silty sand ((g)mS); medium to very fine sand with silt, some clay and occasional medium pebbles; moderately sorted; subrounded to rounded; olive (5Y 5/4)
540	560	Slightly gravelly clayey silty sand ((g)mS); fine to very fine sand and silt with clay, medium to very coarse sand and occasional small pebbles; moderately sorted; rounded; olive (5Y 5/4)
560	580	Slightly clayey silty sand (zS); medium to very fine sand with silt and some very coarse sand and clay and sparse small pebbles; moderately sorted; subrounded to rounded; olive (5Y 4/4)
580	600	Slightly gravelly sandy silty clay ((g)sM); clay and silt with very fine to fine sand and some medium to very coarse sand and small pebbles; poorly sorted; subrounded to rounded; olive (5Y 5/4)
600	620	Silty clayey sand (mS); medium to very fine sand with clay, silt and some coarse to very coarse sand; moderately sorted; subrounded to rounded; olive (5Y 5/4)
620	640	Slightly clayey sand (cS); medium to very fine sand with some coarse to very coarse sand and clay; moderately sorted; rounded; olive (5Y 4/4)
640	660	Sand (S); very fine to coarse sands with some very coarse sand; moderately sorted; rounded to subrounded; olive (5Y 4/4)
660	680	Sand (S); very fine to very coarse sand; moderately sorted; rounded to subrounded; olive (5Y 4/3)
680	700	Slightly clayey sand (cS); very fine to very coarse sand with some clay; poorly sorted; rounded to subrounded; olive (5Y 4/3)
700	720	Slightly clayey slightly gravelly sand ((g)mS); very fine to very coarse sand with some granules, small pebbles and clay; very poorly sorted; rounded to subrounded; olive (5Y 5/3)
720	740	Slightly gravelly sand ((g)S); very fine to very coarse sand with some small pebbles; poorly sorted; rounded to subrounded; olive (5Y 5/3)
740	760	Slightly gravelly sand ((g)S); very fine to very coarse sand with some granules; poorly sorted; rounded to subrounded; olive (5Y 5/3)
760	780	Slightly gravelly sand ((g)S); medium to very coarse sand with fine sand, some granules and small pebbles; poorly sorted; rounded to subrounded; olive (5Y 5/3)
780	820	Sand (S); very fine to very coarse sand; moderately sorted; rounded to subrounded; olive (5Y 5/3)
820	840	Sand (S); very fine to coarse sand; moderately sorted; rounded to subrounded; olive (5Y 5/3)
840	880	Sand (S); very fine to coarse sand; moderately sorted; rounded to subrounded; olive (5Y 4/3)
880	920	Sand (S); very fine to medium sand with some coarse sand; moderately sorted; rounded to subrounded; olive (5Y 4/3)
920	940	Sand (S); very fine to coarse sand; moderately sorted; rounded to subrounded; olive (5Y 4/3)
940	960	Clayey sand (cS); very fine to coarse sand with clay and some very coarse sand; poorly sorted; rounded to subrounded; olive (5Y 5/4)
960	980	Clayey sand (cS); very fine to medium sand with clay and some coarse to very coarse sand; moderately sorted; rounded to subrounded; olive (5Y 4/3)
980	1,000	Clayey sand (cS); very fine to medium sand with clay and some coarse to very coarse sand; moderately sorted; rounded to subrounded; olive gray (5Y 4/2)
1,000	1,020	Silty sandy clay (sC); clay with very fine to fine sand and silt; well sorted; rounded; olive gray (5Y 4/2)
1,020	1,040	Slightly clayey sand (cS); medium to coarse sand with some finer sands and clay; moderately sorted; rounded; dark greenish gray (5GY 4/1)
1,040	1,080	Sand (S); medium to coarse sand with some fine sand; well sorted; rounded; dark greenish gray (5GY 4/1)
1,080	1,100	Slightly clayey sand (cS); medium to coarse sand with fine sand and clay; moderately sorted; rounded to subrounded; olive gray (5Y 4/2)
1,100	1,120	Slightly gravelly slightly clayey sand ((g)mS); medium to coarse sand with some fine sand; clay and occasional small pebbles; moderately sorted; rounded to subrounded; olive gray (5Y 4/2)
1,120	1,140	Sand (S); medium to coarse sand with finer sands; well sorted; rounded to subrounded; olive gray (5Y 4/2)
1,140	1,160	Slightly gravelly slightly clayey sand ((g)mS); medium to coarse sand with some fine sand, clay and occasional small pebbles; moderately sorted; rounded to subrounded; olive gray (5Y 4/2)

**Table 20.** Lithologic sieve log for multiple-well monitoring site SANTA FE SPRINGS-1 (3S/11W-9D1–5), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	20	Silty clayey sand (mS); very fine to medium sand with some clay and silt; moderately sorted; subrounded; dark greenish gray (10GY 3/1)
20	40	Sandy clayey silt (sM); silt with clay and some very fine to medium sand; moderately sorted; subrounded; greenish gray (5G 5/1)
40	60	Gravelly sand (gS); fine to very coarse sand with granules and pebbles less than 8 millimeter diameter; poorly sorted; subrounded; gray (N 5/1)
60	80	Sandy clayey silt (sM); silt with some clay and very fine to fine sand and occasional medium sand; moderately sorted; subrounded; dark greenish gray (5G 4/1)
80	100	Clayey silty sand (mS); very fine to fine sand with some silt and clay and occasional coarse to very coarse sand; moderately sorted; subrounded; dark greenish gray (5G 4/1)
100	120	Silty sand (zS); very fine sand and silt; well sorted; subrounded; dark greenish gray (10GY 4/1)
120	140	Clayey silty sand (mS); very fine sand and silt with clay; well sorted; subrounded; dark greenish gray (10GY 4/1)
140	160	Silty sand (zS); very fine to fine sand with silt and occasional coarse to very coarse sand; well sorted; subrounded; dark greenish gray (10GY 4/1)
160	180	Slightly clayey silty sand (zS); fine to coarse sand with some very fine sand and silt and occasional clay; moderately sorted; subrounded; dark greenish gray (10GY 4/1)
180	200	Silty sand (zS); very fine to fine sand and silt; well sorted; subrounded; dark greenish gray (5GY 3/1)
200	220	Silty sand (zS); very fine to fine sand and silt; well sorted; subrounded; dark greenish gray (5GY 4/1)
220	240	Slightly clayey silty sand (zS); very fine to medium sand with some silt and occasional clay; moderately sorted; subrounded; greenish gray (5G 5/1)
240	260	Slightly clayey silty sand (zS); fine to very fine sand with silt and occasional clay and medium to coarse sand; moderately sorted; subrounded; dark greenish gray (10GY 4/1)
260	280	Clayey silty sand (mS); fine to very coarse sand with very fine sand, silt and clay; very poorly sorted; subrounded; dark greenish gray (10GY 4/1)
280	300	Gravelly sand (gS); very fine to very coarse sand with granules; poorly sorted; subrounded; dark gray (N 4/1)
300	320	Silty clayey sand (mS); very fine to medium sand with clay and silt; moderately sorted; subrounded; very dark gray (N 3/1)
320	340	Silty sand (zS); very fine to fine sand and silt; well sorted; subrounded; dark greenish gray (5GY 4/1)
340	360	Sand (S); fine to coarse sand with some shell fragments; well sorted; subrounded; dark greenish gray (5GY 3/1)
360	380	Silty sand (zS); very fine to medium sand with silt; moderately sorted; subrounded; dark greenish gray (5GY 3/1)
380	400	Sand (S); very fine to medium sand with occasional very coarse sand and shell fragments; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
400	420	Sand (S); very fine to medium sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
420	460	Sandy silt (sZ); silt with very fine to fine sand and occasional coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
460	480	Silty sand (zS); fine to medium sand with very fine sand and silt and occasional coarse to very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
480	500	Silty sand (zS); fine to medium sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 3/1)
500	520	Silty sand (zS); fine to coarse sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 3/1)
520	560	Gravelly sand (gS); fine to very coarse sand with granules and occasional pebbles less than 8 millimeter diameter; poorly sorted; subrounded; dark greenish gray (10Y 3/1)
560	580	Slightly clayey sand (S); fine to coarse sand with occasional very coarse sand and clay; well sorted; subrounded; dark greenish gray (10Y 4/1)

**Table 20.** Lithologic sieve log for multiple-well monitoring site SANTA FE SPRINGS-1 (3S/11W-9D1–5), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
580	620	Silty sand (zS); fine to coarse sand with some very fine sand and silt and occasional very coarse sand; moderately sorted; subrounded; dark gray (N 4/1)
620	640	Silty sand (zS); fine to coarse sand with silt and very fine sand and occasional very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 3/1)
640	660	Silty sand (zS); fine to coarse sand with some very fine sand and silt and occasional very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 3/1)
660	680	Sandy silt (sZ); silt with very fine to medium sand and occasional very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
680	700	Silty sand (zS); very fine to medium sand with silt and some coarse to very coarse sand; poorly sorted; subrounded; dark greenish gray (10Y 4/1)
700	720	Sandy silt (sZ); silt with very fine to fine sand and occasional coarse to very coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
720	740	Silty sand (zS); very fine to fine sand and silt with occasional coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
740	760	Sandy silt (sZ); silt and very fine to fine sand with occasional very coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
760	780	No sample collected
780	800	Sandy silt (sZ); silt and very fine to fine sand with occasional very coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
800	820	Sandy silt (sZ); silt and very fine to fine sand with occasional coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
820	840	Silty sand (zS); fine to medium sand with very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
840	860	Sandy silt (sZ); silt with very fine to fine sand and occasional coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
860	880	Sandy silt (sZ); silt with very fine to fine sand and occasional very coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
880	900	Sandy silt (sZ); very fine to fine sand and silt with occasional coarse sand; well sorted; subrounded; dark greenish gray (5GY 3/1)
900	920	Sandy silt (sZ); silt and very fine sand; well sorted; subrounded; dark greenish gray (5GY 3/1)
920	940	Slightly clayey sandy silt (sZ); silt and very fine sand with occasional clay; well sorted; subrounded; dark greenish gray (5GY 3/1)
940	960	Sandy silt (sZ); silt and very fine sand with some coarse sand; well sorted; subrounded; dark greenish gray (5GY 3/1)
960	1,040	Sandy silt (sZ); silt with very fine to fine sand; well sorted; subrounded; dark greenish gray (5GY 3/1)
1,040	1,060	Slightly clayey sandy silt (sZ); silt with very fine sand and occasional clay; well sorted; subrounded; dark greenish gray (5GY 3/1)
1,060	1,080	Clayey sandy silt (sM); silt with very fine to fine sand and clay; moderately sorted; subrounded; dark greenish gray (5GY 3/1)
1,080	1,180	Sandy clayey silt (sM); silt and clay with some very fine sand; well sorted; subrounded; dark greenish gray (5GY 3/1)
1,180	1,280	Sandy clayey silt (sM); silt and clay with some very fine sand; well sorted; subrounded; dark greenish gray (5GY 4/1)
1,280	1,320	Sandy silt (sZ); silt with very fine to fine sand; well sorted; subrounded; dark greenish gray (5GY 4/1)
1,320	1,340	No sample collected
1,340	1,420	Slightly clayey sandy silt (sZ); silt with very fine sand and occasional clay; well sorted; subrounded; dark greenish gray (5GY 3/1)

**Table 21.** Lithologic sieve log for multiple-well monitoring site SOUTH GATE-1 (3S/12W-6B4-8), Los Angeles County, California

[Location shown in fig. 2. Altitude and construction information given in table 1. Depth is in feet below land surface. Rock-type abbreviations given in fig. 27. Soil and rock notation from Munsell Color (1994). Drilled by U.S. Geological Survey using mud rotary.]

Depth, in feet		Description
From	To	
0	20	Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; olive (5Y 4/4)
20	40	Sandy silt (sZ); silt with very fine to fine sand and occasional medium sand; well sorted; subrounded; dark olive gray (5Y 3/2)
40	60	Sandy silt (sZ); silt with very fine to fine sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
60	80	Sand (S); medium to coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
80	100	Sand (S); medium to coarse sand with some very coarse sand; well sorted; subrounded; dark greenish gray (10Y 4/1)
100	120	Silty sand (zS); very fine to coarse sand with silt and occasional very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
120	140	Silty sand (zS); very fine sand and silt with fine to medium sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
140	160	Gravelly sand (gS); very fine to very coarse sand with granules and pebbles less than 15 millimeter diameter; very poorly sorted; subrounded; dark greenish gray (10Y 4/1)
160	180	Silty sand (zS); medium to very coarse sand with fine sand to silt; poorly sorted; subrounded; dark greenish gray (10Y 4/1)
180	220	Gravelly sand (gS); medium to coarse sand with some very coarse sand and granules; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
220	240	Gravelly sand (gS); medium to coarse sand with very coarse sand and granules and some pebbles less than 10 millimeter diameter; moderately sorted; subrounded; greenish gray (10Y 5/1)
240	260	Sand (S); medium to coarse sand with some fine to very fine sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
260	280	Silty sand (zS); medium to very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
280	300	Silty sand (zS); medium to fine sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
300	320	Sandy silty clay (sM); clay and silt with some medium to coarse sand; poorly sorted; subrounded; dark greenish gray (10Y 4/1)
320	340	Sand (S); fine to very coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
340	360	Silty sand (zS); fine to coarse sand with some very fine sand and silt; moderately sorted; subrounded; greenish gray (10Y 5/1)
360	380	Sandy silt (sZ); silt and very fine sand with some medium to coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
380	400	Sandy silt (sZ); silt with very fine to coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
400	420	Silty sand (zS); very fine to coarse sand with silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
420	440	Sandy silt (sZ); silt with very fine to fine sand; well sorted; subrounded; olive gray (5Y 5/2)
440	460	Silty sand (zS); fine to very coarse sand with silt; moderately sorted; subrounded; greenish gray (10Y 5/1)
460	480	Silty sand (zS); fine to coarse sand with very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
480	500	Sandy silt (sZ); silt with very fine to fine sand and occasional medium to coarse sand; moderately sorted; subrounded; greenish gray (10Y 5/1)
500	520	Gravelly silty sand (gmS); very fine to fine sand with silt and medium to very coarse sand and occasional granules; poorly sorted; subrounded; greenish gray (10Y 5/1)
520	540	Gravelly sand (gS); fine to very coarse sand with granules and occasional pebbles less than 10 millimeter diameter; poorly sorted; subrounded; dark greenish gray (10Y 4/1)
540	560	Gravelly sand (gS); fine to very coarse sand with granules and occasional pebbles less than 10 millimeter diameter; poorly sorted; subrounded; olive gray (5Y 5/2)
560	580	Gravelly sand (gS); fine to very coarse sand with granules and occasional pebbles less than 10 millimeter diameter; poorly sorted; subrounded; olive gray (5Y 4/2)
580	600	Gravelly sand (gS); medium to very coarse sand with granules; moderately sorted; subrounded; olive gray (5Y 4/2)



**Table 21.** Lithologic sieve log for multiple-well monitoring site SOUTH GATE-1 (3S/12W-6B4–8), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
600	620	Gravelly sand (gS); medium to very coarse sand with granules and occasional pebbles less than 8 millimeter diameter; moderately sorted; subrounded; olive gray (5Y 5/2)
620	640	Silty gravelly sand (gmS); very fine to very coarse sand with granules and silt; very poorly sorted; subrounded; olive (5Y 5/3)
640	660	Silty sand (zS); very fine sand and silt with some fine to medium sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
660	680	Sand (S); fine to coarse sand; well sorted; subrounded; olive gray (5Y 5/2)
680	700	Sand (S); medium to coarse sand; well sorted; subrounded; olive gray (5Y 5/2)
700	720	Silty sand (zS); medium to coarse sand with some very fine sand to silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
720	740	Silty sand (zS); very fine sand and silt with medium to coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
740	760	Silty sand (zS); medium to coarse sand with very fine sand to silt; moderately sorted; subrounded; olive gray (5Y 4/2)
760	780	Sand (S); medium to coarse sand; well sorted; subrounded; olive gray (5Y 5/2)
780	800	Sand (S); medium to very coarse sand; well sorted; subrounded; greenish gray (10Y 5/1)
800	820	Silty sand (zS); medium to coarse sand with some very fine sand and silt and occasional very coarse sand; moderately sorted; subrounded; greenish gray (10Y 5/1)
820	840	Silty sand (zS); medium to coarse sand with some very fine sand and silt; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
840	860	Silty sand (zS); very fine to fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
860	880	Sand (S); fine to coarse sand; well sorted; subrounded; olive gray (5Y 5/2)
880	900	Sand (S); fine to very coarse sand; moderately sorted; subrounded; olive gray (5Y 4/2)
900	920	Silty sand (zS); medium to very coarse sand with fine sand to silt; poorly sorted; subrounded; olive gray (5Y 4/2)
920	980	Gravelly sand (gS); fine to very coarse sand and granules; poorly sorted; subrounded; olive gray (5Y 4/2)
980	1,020	Sandy silt (sZ); silt with some very fine to medium sand and occasional wood fragments; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,020	1,040	Slightly silty sand (S); medium to very coarse sand with occasional very fine sand and silt; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,040	1,060	Silty sand (zS); medium to very coarse sand with very fine sand and silt and occasional wood fragments; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,060	1,080	Sandy silt (sZ); silt and very fine sand with medium to coarse sand and occasional wood fragments; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,080	1,100	Sand (S); fine to coarse sand with occasional wood fragments; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,100	1,120	Silty sand (zS); fine to coarse sand with some very fine sand and silt and occasional wood fragments; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,120	1,140	Silty sand (zS); fine to coarse sand with some very fine sand and silt and occasional wood fragments; moderately sorted; subrounded; greenish gray (10Y 5/1)
1,140	1,160	Silty sand (zS); very fine sand and silt with some medium to coarse sand; well sorted; subrounded; greenish gray (10Y 5/1)
1,160	1,180	Silty sand (zS); very fine sand and silt with some fine to medium sand; well sorted; subrounded; greenish gray (10Y 5/1)
1,180	1,220	Silty sand (zS); fine to coarse sand with some very fine sand and silt; moderately sorted; subrounded; greenish gray (10Y 5/1)
1,220	1,240	Sandy silt (sZ); silt with very fine to fine sand and occasional wood and shell fragments; well sorted; subrounded; greenish gray (10Y 5/1)
1,240	1,260	Silty sand (zS); fine to coarse with some very fine sand and silt; moderately sorted; subrounded; olive gray (5Y 5/2)
1,260	1,280	Sand (S); fine to coarse sand; well sorted; subrounded; olive gray (5Y 5/2)
1,280	1,300	Silty sand (zS); fine to coarse sand with very fine sand and silt and wood fragments; moderately sorted; subrounded; dark greenish gray (10Y 4/1)

**Table 21.** Lithologic sieve log for multiple-well monitoring site SOUTH GATE-1 (3S/12W-6B4-8), Los Angeles County, California—Continued

Depth, in feet		Description
From	To	
1,300	1,320	Sand (S); fine to coarse sand with some wood fragments; well sorted; subrounded; dark greenish gray (10Y 4/1)
1,320	1,360	Sand (S); fine to coarse sand with some wood fragments; well sorted; subrounded; olive gray (5Y 5/2)
1,360	1,380	Silty sand (zS); fine to coarse sand with very fine sand and silt and wood fragments; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,380	1,400	Silty sand (zS); very fine sand and silt with fine to coarse sand; moderately sorted; subrounded; dark greenish gray (10Y 4/1)
1,400	1,420	Sand (S); fine to coarse sand with some wood fragments; well sorted; subrounded; olive gray (5Y 4/2)
1,420	1,440	Silty sand (zS); fine to coarse sand with very fine sand and silt and some wood fragments; moderately sorted; subrounded; greenish gray (10Y 5/1)
1,440	1,460	Silty sand (zS); fine to coarse sand with some very fine sand and silt and some wood fragments; moderately sorted; subrounded; greenish gray (10Y 5/1)
1,460	1,500	Silty sand (zS); fine to coarse sand with some very fine sand and silt and occasional wood fragments; moderately sorted; subrounded; greenish gray (10Y 5/1)